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ABSTRACT

This Job Function Booklet (Using Information about the Environment) is one of the 14 components (see note) of the Career Alert Planning (CAP) program, a set of individualized materials designed to help participants find out about themselves and about the kind of work for which they are suited. In this program, participants become acquainted with occupations that are representative of 10 basic job functions. They learn how these occupations relate to personal interests, abilities, skills, educational goals, experiences, and training. They consider the working conditions, salary, and employment outlook for each occupation. Finally, participants use this information to make decisions and plans about the careers they will pursue. This Job Function Booklet examines occupations using information about the environment, one of the 10 basic job functions explored in the series, and describes four occupations related to this function: landscape gardener, fish and game warden, farmer, and meteorologist. The booklet contains the following sections: (1) an "explore" section, which describes the environmental job function and introduces the four occupations representative of it; (2) four "perform" sections, which contain work simulation activities related to each of the four occupations (e.g., "imagine you are a fish and game warden; your task is to decide which people are not following fishing rules"); these activities give participants "hands-on" experience in performing work-related tasks; and (3) four "decide" sections, which provide greater detail about the occupations and about working conditions, income, and education and experience required. Education and experience activities that can be undertaken by participants are suggested. (KC)

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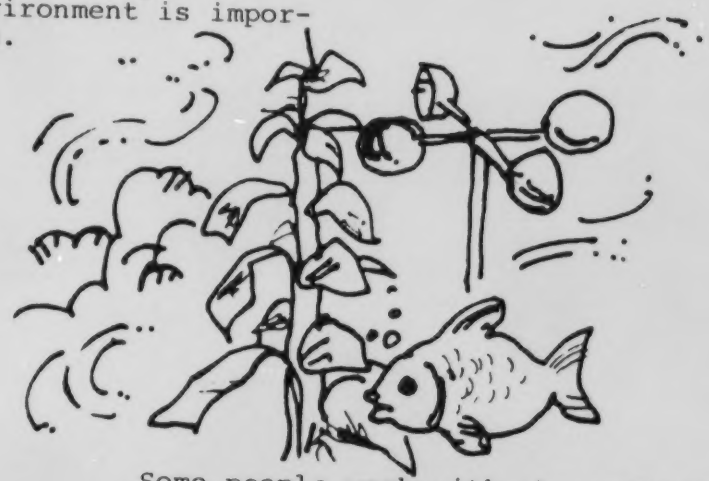
What is using information about the environment?

EXPLORE

The environment is everything around us. The environment is the land, our homes, air, water, plants, animals, and many other things. The environment is important to everyone.



Some people work with the environment. They study information about the environment. They learn why things happen and how those things affect the world we live in.

Then, these workers use this information. They do things to help make and keep the environment clean, beautiful, and useful. They help other people to use the environment wisely too.

Taking care of the earth and its creatures is very important to these workers. People who use information about the environment do the following kinds of things. . .

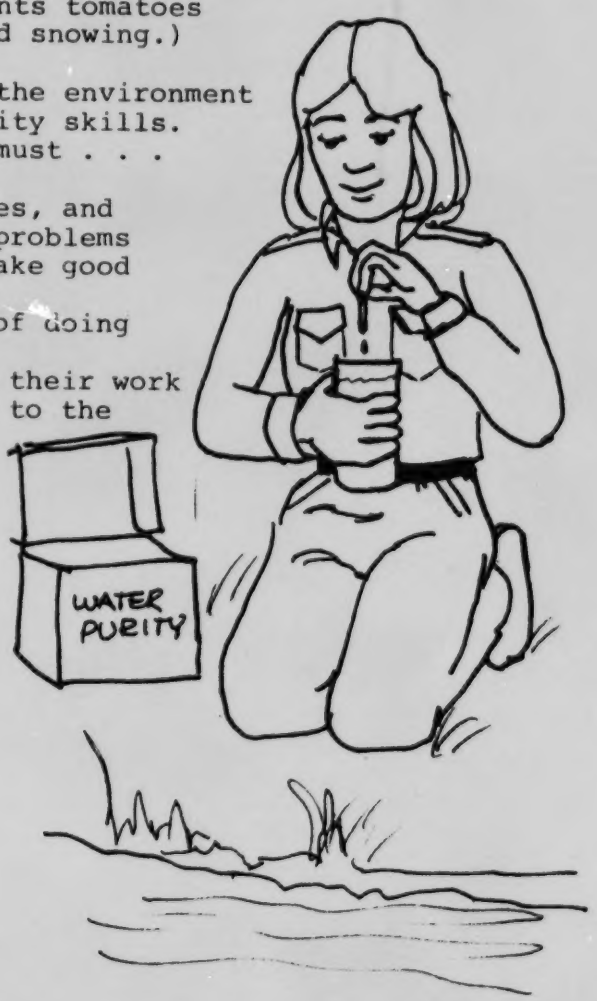
- grow flowers and plants
- raise animals
- protect fish, birds, and other wildlife
- predict weather
- grow crops

People who use information about the environment must have a love and respect for the environment. They must be willing to learn about the environment. And they must want to use that knowledge to do their work well.

There are some things about the environment that people are unable to change--like the weather. People who use information about the environment know these facts. They plan their work accordingly. For example, they plant crops at the right time. (No one plants tomatoes when it is 10 degrees and snowing.)

Using information about the environment takes special work maturity skills. People who do this work must . . .

- -identify facts, causes, and symptoms of various problems
- -use information to make good work plans
- -be open to new ways of doing things
- -be responsible about their work
- -be willing to listen to the opinions of others



Interests

People who use information about the environment share some common interests. They enjoy . . .

- nature
- working in fields, or near trees or water
- finding out why things happen
- learning about the earth
- doing physical activity
- being responsible for their own work

Abilities

People who use information about the environment have similar kinds of abilities. They use their abilities to develop skills--skills that enable them to do a good job. To develop their job skills, these workers must have the ability to . . .

- study information and use it to make decisions
- notice things that happen around them
- use logic to solve problems
- plan when and how to do each task
- do tasks that require physical strength and endurance
- explain things to other people

Do you feel you have some of the interests and abilities of a person who uses environmental information? Turn to the Using Information about the Environment Reaction Form in your Program Guide. Place a check in front of the interests and abilities you share with people who use information about the environment.

Now you will meet four people in jobs that use environmental information. Read about these people. Imagine yourself in their jobs, because . . .

Perhaps you would like a career in using environmental information.

Herb Vory
landscape gardener

I work with the earth. I plant and take care of shrubs, flowers, trees, and lawns. I do things to make the landscape beautiful. I love every minute of my work. I am proud when the plants are healthy and attractive.

Hal Evans, fish and game warden

I like the outdoors. I like to camp, hunt, and fish. In my job, I combine my love of nature with my desire to help other people.

My job is to protect wildlife (fish, birds, animals). I do this by teaching people about hunting, fishing, and other outdoor sports. I hope people follow these rules. Then, everyone will be able to enjoy our wildlife for many years to come.

Allen Harper
farmer

I work with the land. I plant crops and raise animals like cows and pigs. Being a farmer is hard work. And, it is a risky business. There are times when an unexpected flood or freeze ruins my crops. But, most often I have a good crop. That is very satisfying. I work hard at my job.

Marcia Carter
meteorologist

My job is to look at and report the weather. I also predict what the weather will be like. I use special equipment to collect weather information. I use this information to make decisions about the weather.

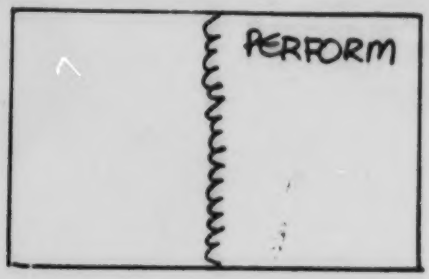
Everyone uses weather reports. I work at an airport. Pilots read my weather reports before they pick their flight plans. I must give them the right information. Then they will not fly into storms or dangerous weather! My work is very important.

Would you like to try out some jobs that these workers do?

yes ▶ Choose one of these occupations:

Occupation 29--Landscape Gardener
Occupation 30--Fish and Game Warden
Occupation 31--Farmer
Occupation 32--Meteorologist

Then, turn to the proper PERFORM section of this Job Function booklet.



no ▶ Check your Self-Inventory Chart. Choose your next highest ranking job function. Get that Job Function booklet and read the EXPLORE section.

Landscape Gardener PERFORM 29

Landscape gardeners care for grass, trees, and other plants. They work around homes, parks, businesses, and even golf courses. They keep these areas clean, neat, and beautiful. They have the following responsibilities.

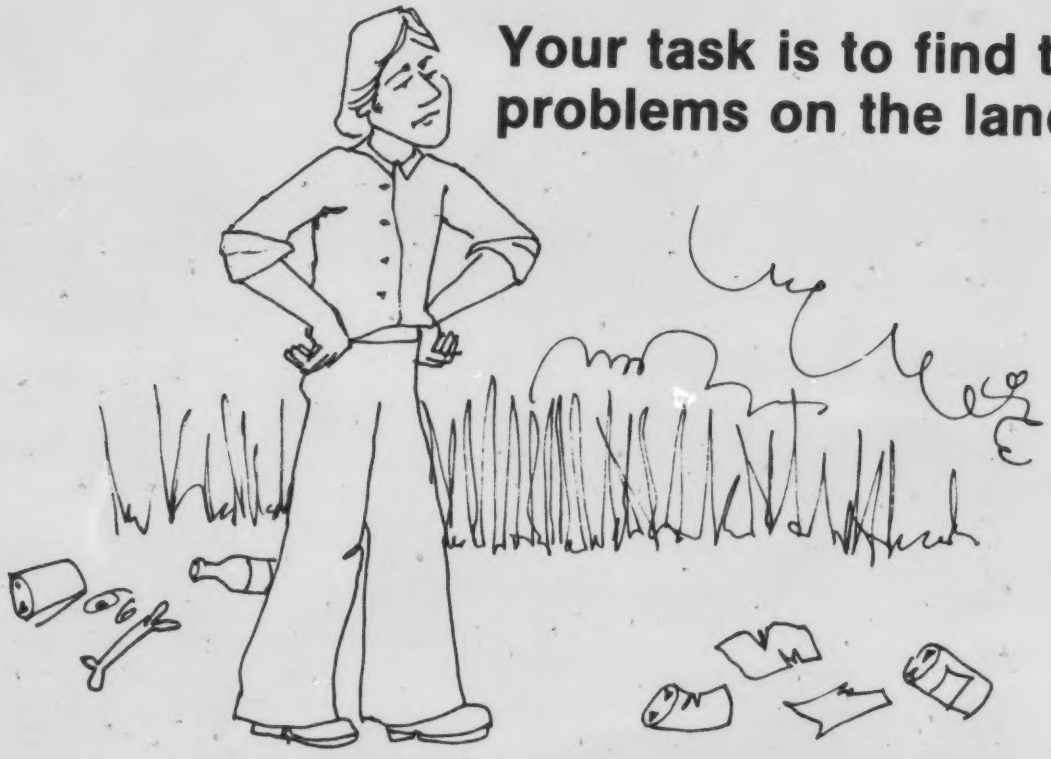
Responsibilities

1. Establish a work plan.
2. Plant shrubs, flowers, etc.
3. Prune trees and shrubs.
4. Weed gardens.
5. Fertilize plants.

You will learn something about establishing a work plan as you PERFORM the following activity.

Imagine . . . YOU are a landscape gardener.

You work for the city of Stanton. The city bought some land. Last year, the land was a beautiful park. Now it is ugly and messy. The land is covered with tall grass. It must be cleaned up.



Your task is to find the problems on the land.

This is what you must do:

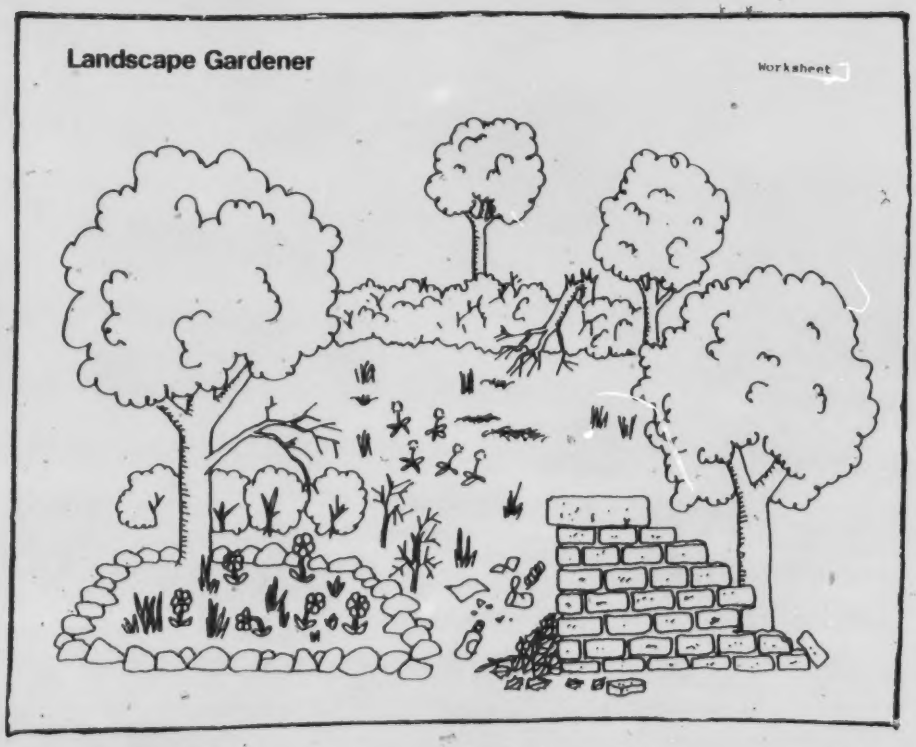
Look at the land

STEP 1.

Turn to Worksheet 29, Landscape Gardener.

STEP 2.

Think about where this land looks messy.
The messy places are problem areas.
They must be cleaned up.



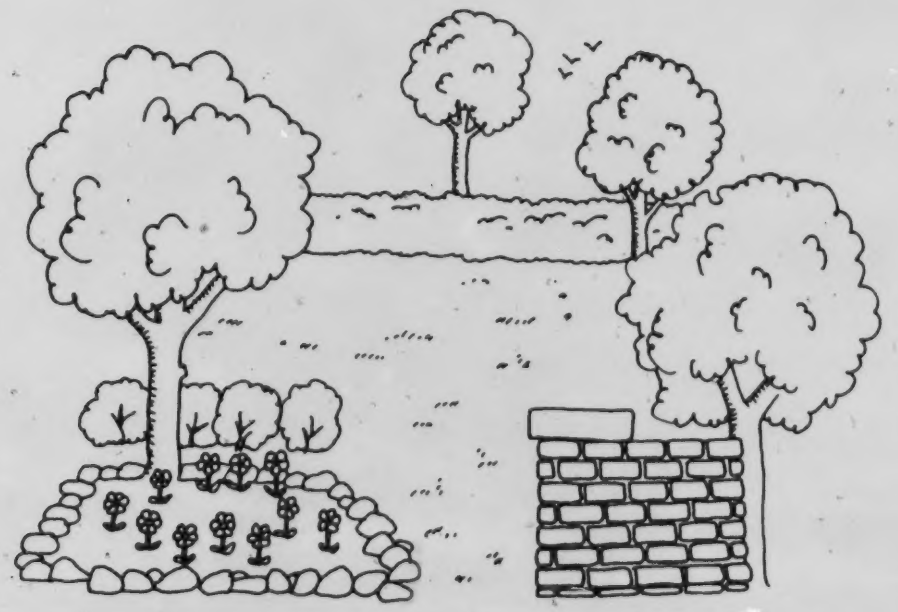
Find out how the land is supposed to look

STEP 1.

Look at the picture below. It shows how the land should look.

STEP 2.

Look at each area in the picture. Notice how neat and tidy the land looks.



Identify the problem areas

STEP 1.

Look at Worksheet 29, Landscape Gardener, again. It shows how the land looks now.

STEP 2.

Compare the worksheet picture with the picture of the land as it should look.

STEP 3.

Circle each problem area on the worksheet. There are twelve problem areas.

STEP 4.

Check your completed worksheet with the key on the next page.

Key

Now . . .

Turn to the Using Information about the Environment Reaction Form in your Program Guide. Find the Landscape Gardener page. Record your feelings about your interests and abilities in this activity. When you are finished, turn to the next page.

Did you like being a landscape gardener?
Yes? Then here are . . .

Some other activities:

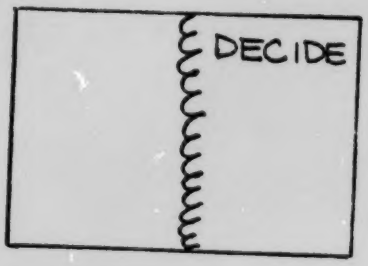
1. Walk around your school. Notice the trees, grass, and flowers. Are they arranged to help your school look beautiful?

2. Talk to a landscape gardener. Ask him or her about this job.

3. Look at books about flowers, trees, and bushes. Learn about the plants you see every day.

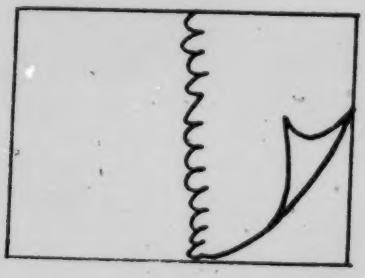
Would you like to find out more about this occupation?

yes ▶ Turn to DECIDE 29--Landscape Gardener.

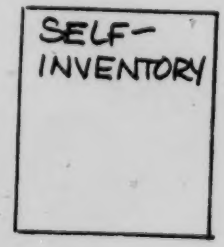


no ▶ Turn to another Using Information about the Environment occupation:

Occupation 30--Fish and Game Warden
Occupation 31--Farmer
Occupation 32--Meteorologist



or ▶ Look at the Self-Inventory Chart in your CAP Program Guide. Select another job function to investigate.

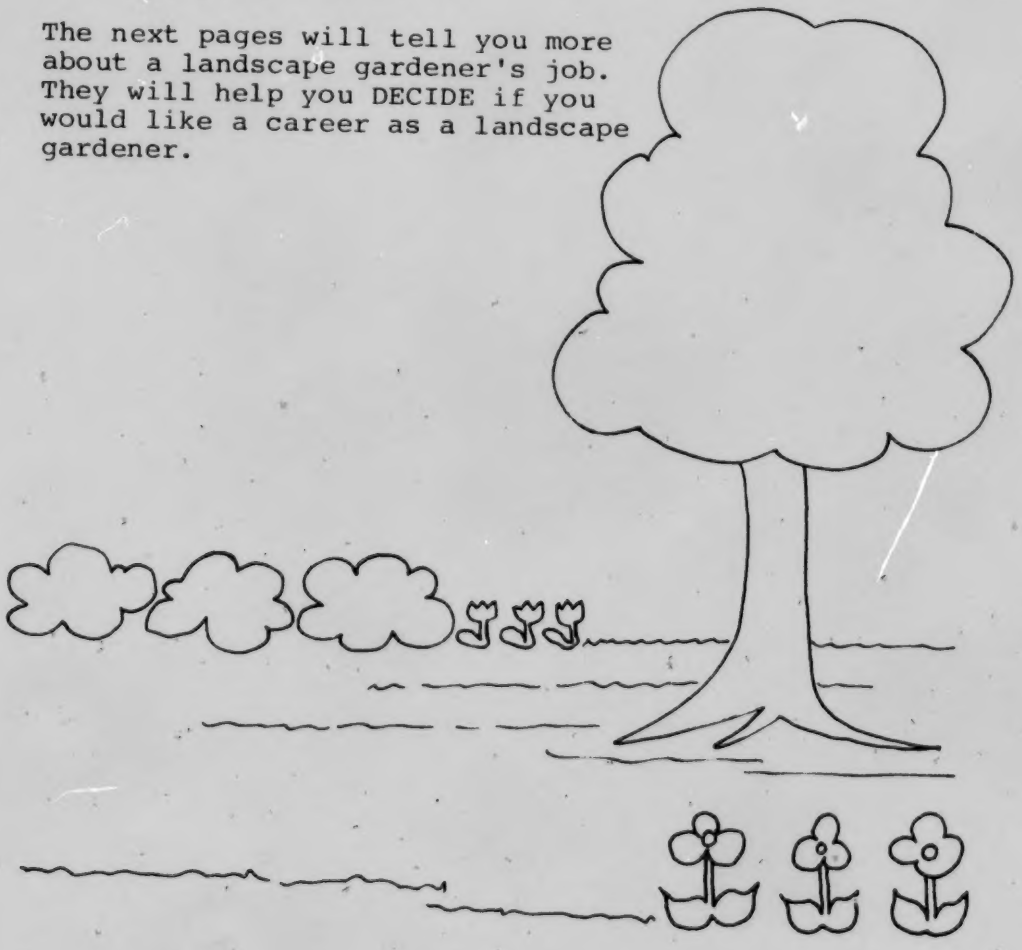


Landscape Gardener

DECIDE 29

You finished a landscape gardener's task. You found the land areas that needed attention.

The next pages will tell you more about a landscape gardener's job. They will help you DECIDE if you would like a career as a landscape gardener.



Talking with Herb Vory, landscape gardener for the city of Bixby . . .

I work for the city. I help keep our city's parks beautiful. I care for the plants. I fertilize the flowers and grass. I pull weeds. I cut the grass, trim dead branches from trees, and trim bushes. I also rake leaves and replace dead plants.

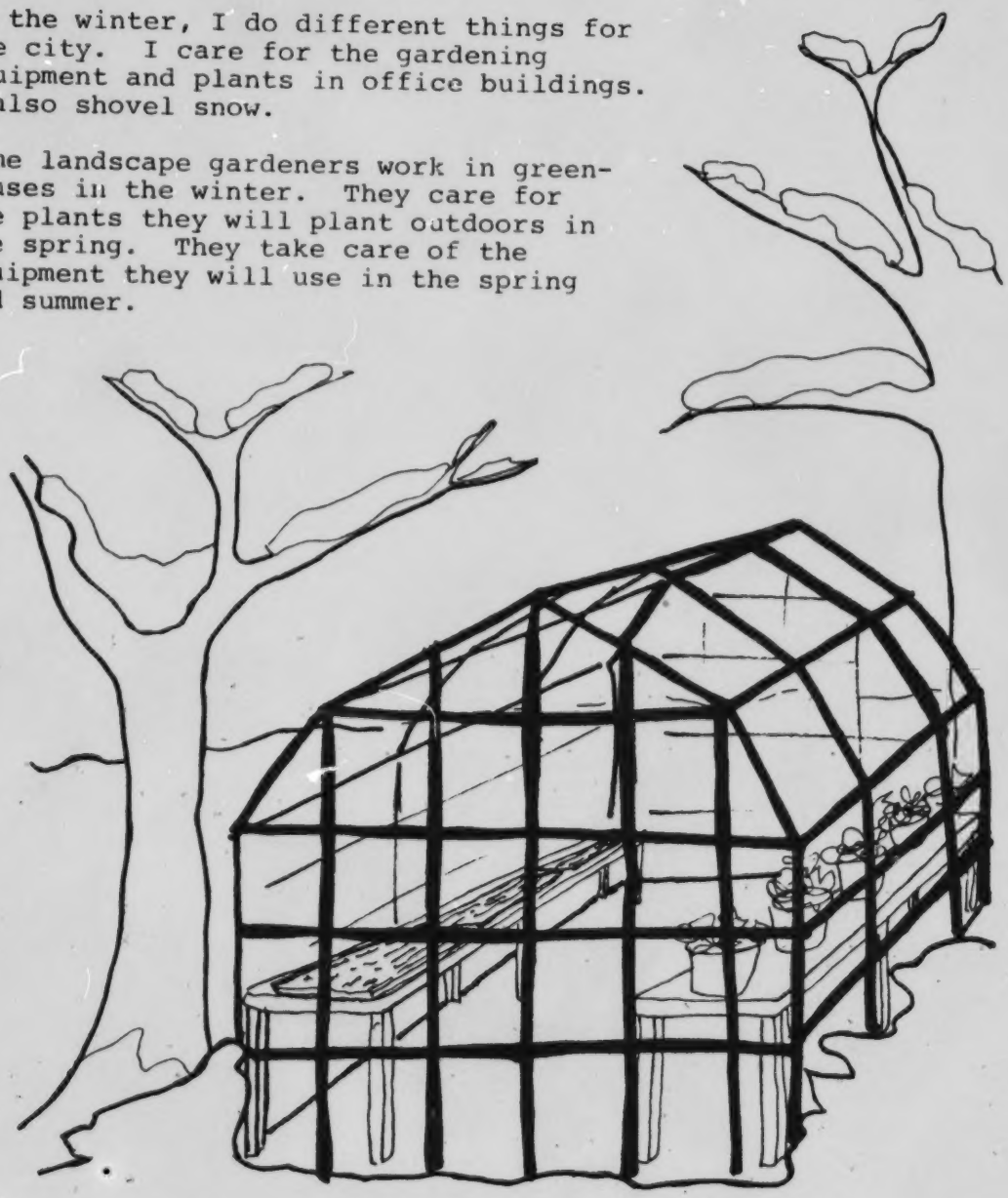
I look at the parks in a special way when I do my work. I have trained my eyes to notice small details. I find what areas need attention. Then I plan when and how I will do each task.

Sometimes I help create a new park. To do this, I follow a plan. The plan is designed by a Landscape Architect (a person who plans where plants should go).

Sometimes I build small walls around trees and gardens. I also build paths in parks.

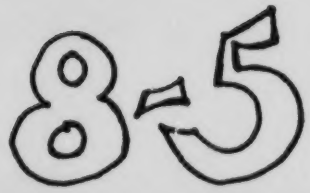
In the winter, I do different things for the city. I care for the gardening equipment and plants in office buildings. I also shovel snow.

Some landscape gardeners work in greenhouses in the winter. They care for the plants they will plant outdoors in the spring. They take care of the equipment they will use in the spring and summer.



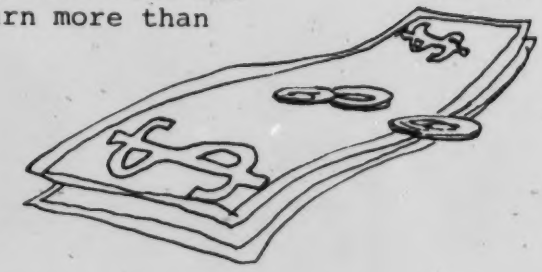
What hours do you work?

I work from 8:00 a.m. to 5:00 p.m., Monday through Friday. I don't often work extra hours.



How much money do you earn?

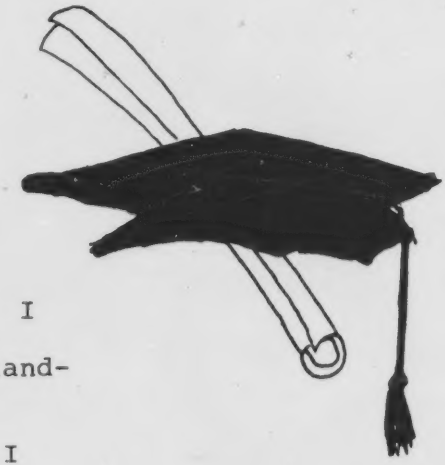
Beginning landscape gardeners in my city earn about $8,000 a year. Experienced landscape gardeners can earn about $10,000 a year. Gardeners who watch and teach other workers can earn more than $12,000 a year.



Do all landscape gardeners do the same things that you do?

Yes. Many landscape gardeners work for the government. They work for cities and states. They work for the federal government, too.

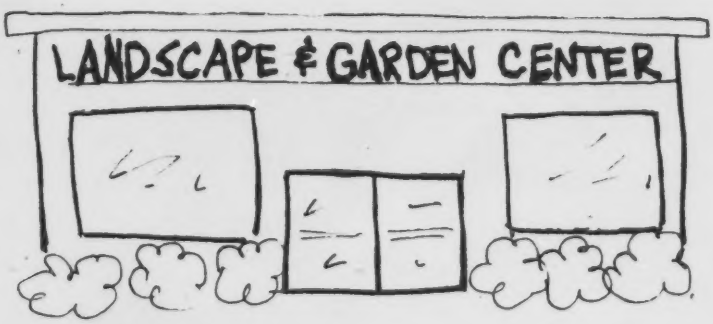
Some landscape gardeners work for private businesses like landscape architect firms, nurseries, and companies that build homes. These gardeners put grass and plants around new homes and businesses.



How did you prepare for your job?

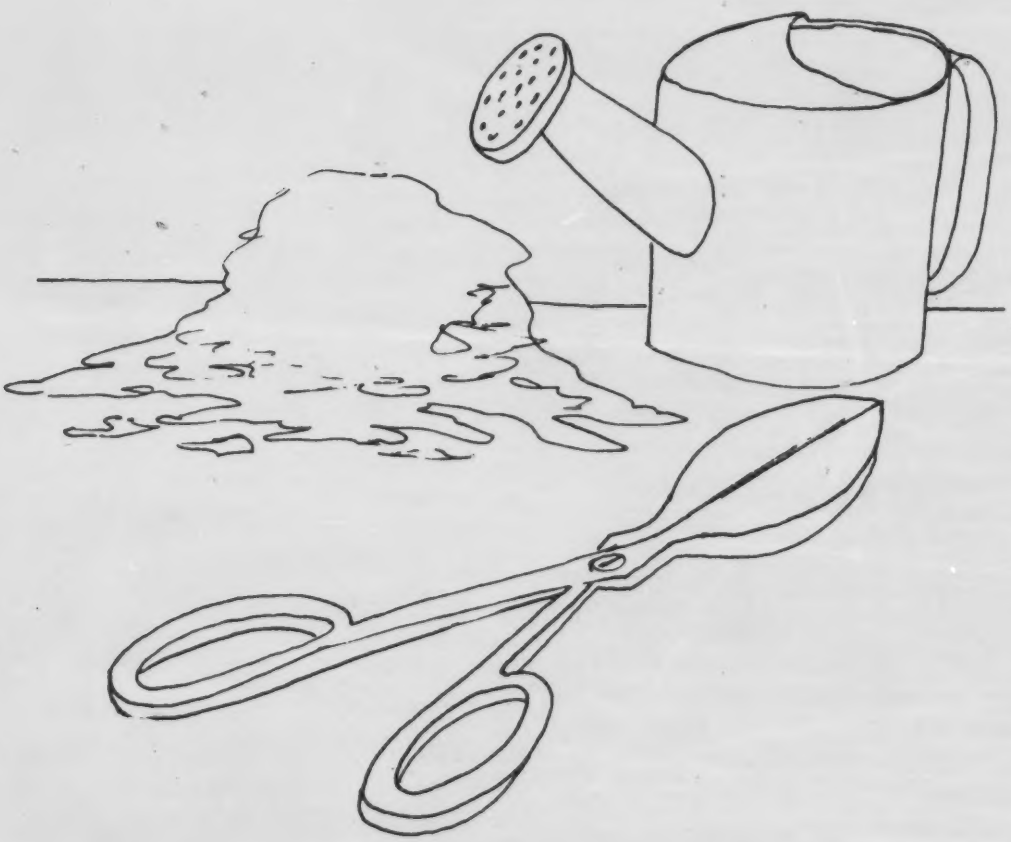
In high school, I had a summer job. I worked for a company that cares for landscapes. I learned a lot about landscape gardening.

I graduated from high school. Then I got this job. I learned more about landscape gardening on the job.



I learned about soil and what makes soil good for plants. I learned what mixtures to add to soil to make it better for plants.

I learned all about the many different kinds of plants. I learned how to help them grow and how to water them. I also learned when and how to trim plants. Today, I have many skills.

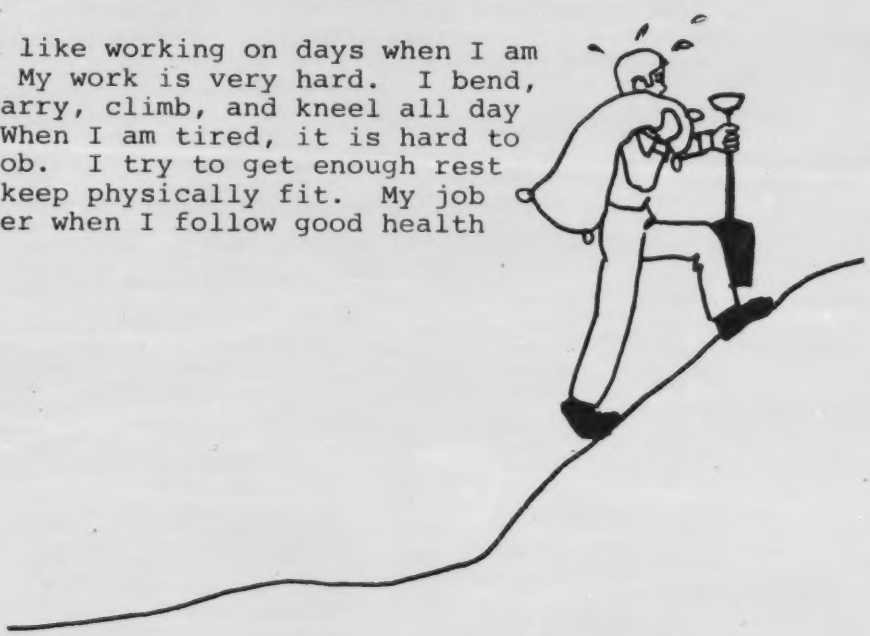


What do you like most about your job?

I love to work outdoors, planting and caring for plants and flowers. I feel good when I see how beautiful the park looks. I know other people enjoy the park because of my hard work.

What do you like least?

I don't like working on days when I am tired. My work is very hard. I bend, lift, carry, climb, and kneel all day long. When I am tired, it is hard to do my job. I try to get enough rest and to keep physically fit. My job is easier when I follow good health habits.



What is the employment outlook?

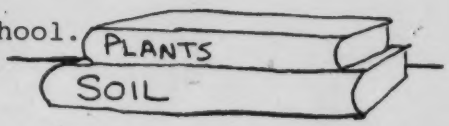
The employment outlook is average. Most opportunities will be in private business. Lawn and garden centers and commercial greenhouses will employ landscape gardeners.

Opportunities with municipal governments will be limited. Here most job openings will come from the need to replace workers who have left the job.

Do you want to learn more about this job?

You can get more education:

- Take the following courses in high school.



  General science and botany:

  Landscape gardeners need to know about the earth and weather. They need to know about plants and how they grow.

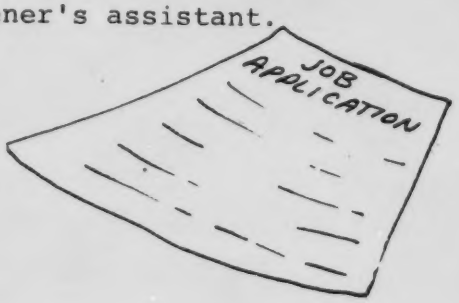
  Art:

  Landscape gardeners should know what makes a good design and how to combine colors and shapes.

- Talk with a science teacher about landscape gardening.
- Go to the library and read about plants and soil.
- Visit a greenhouse and talk with a landscape gardener.
- Get information about courses you can take while you work.

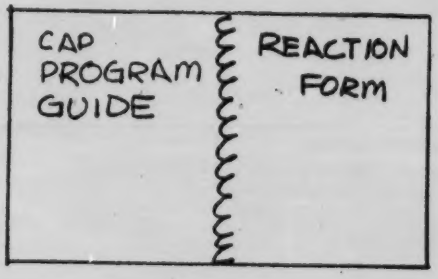
You can get some experience:

- Get a part-time job as a landscape gardener's helper.
- Do the gardening around your home. Learn what parts of gardening you most enjoy.
- Apply for a job as a landscape gardener's assistant.



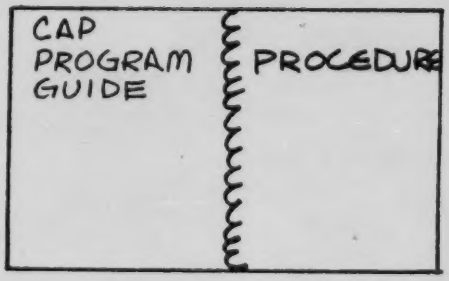
Now . . .

Turn to the Using Information About the Environment Reaction Form in your Program Guide. Answer the questions on the back of the Landscape Gardener sheet.



What Next?

How many occupations have you investigated so far? Turn to the Procedure section of your Program Guide. Find the directions that apply to you.



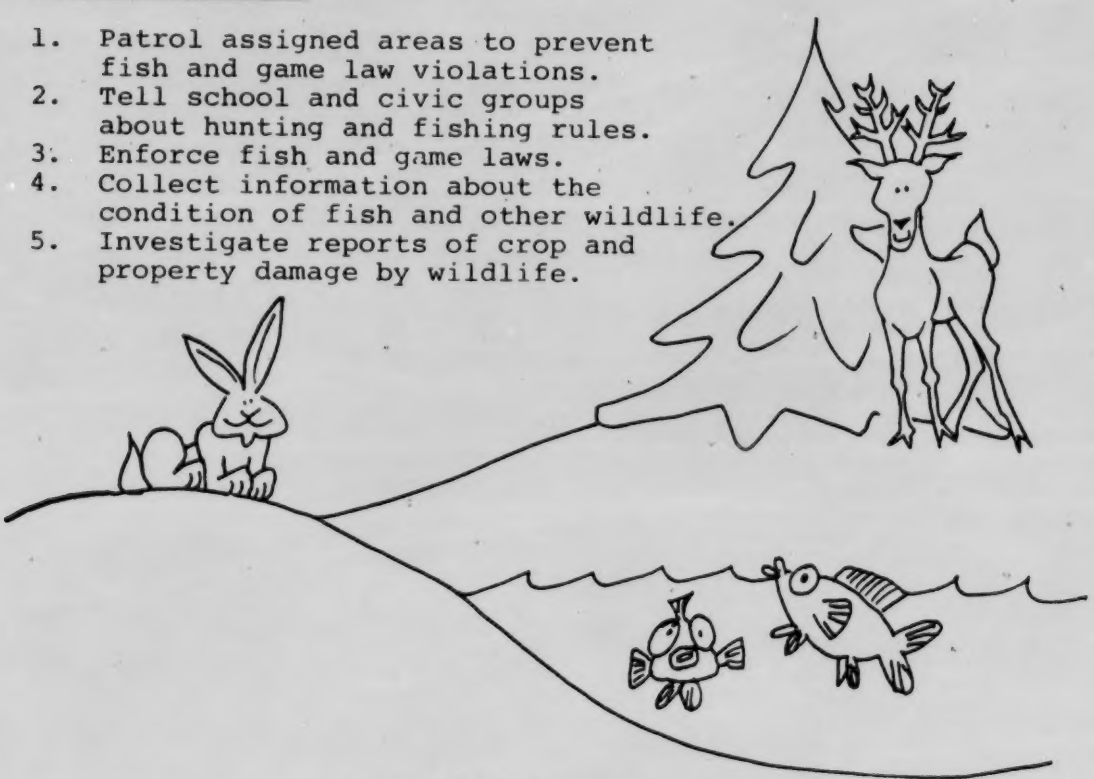
Enjoy the Career Alert Planning program!

Fish and Game Warden PERFORM 30

Fish and game wardens protect wildlife (fish and wild animals). They must know about many kinds of wildlife. They must know about the life cycles and habits of various wildlife. Fish and game wardens have many responsibilities.

Responsibilities

1. Patrol assigned areas to prevent fish and game law violations.
2. Tell school and civic groups about hunting and fishing rules.
3. Enforce fish and game laws.
4. Collect information about the condition of fish and other wildlife.
5. Investigate reports of crop and property damage by wildlife.

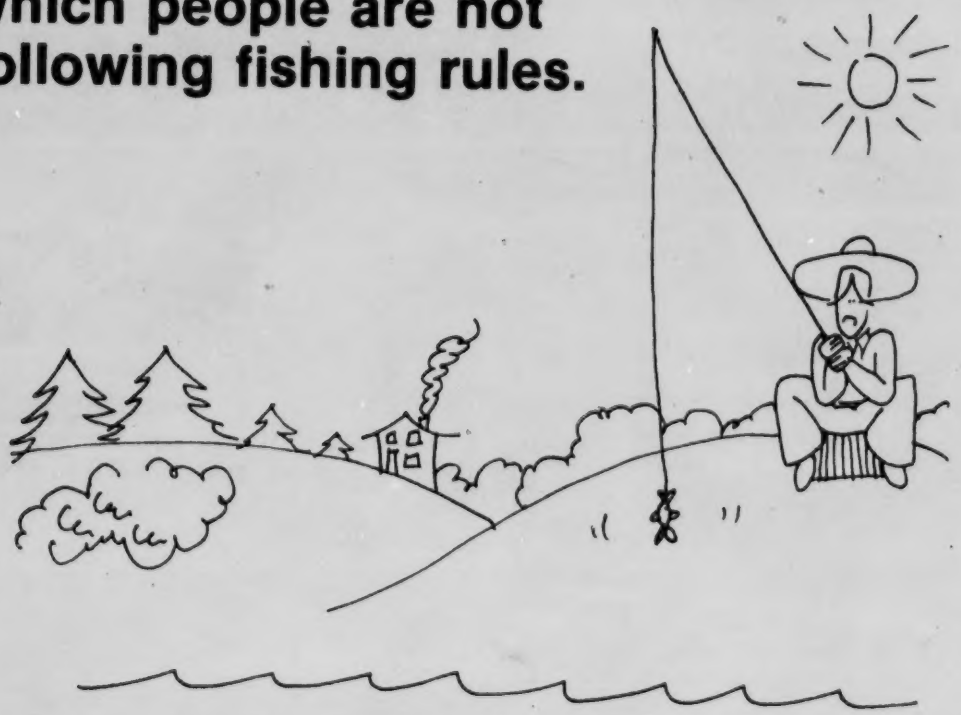


You will learn about enforcing fish and game laws as you PERFORM the following activity.

Imagine . . . YOU are a fish and game warden.

Fishing season has begun. Many people are fishing in Laker. You are the Fish and Game Warden of Laker. It is your duty to make sure that people are following the fishing rules.

Your task is to decide which people are not following fishing rules.



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This is what you must do:

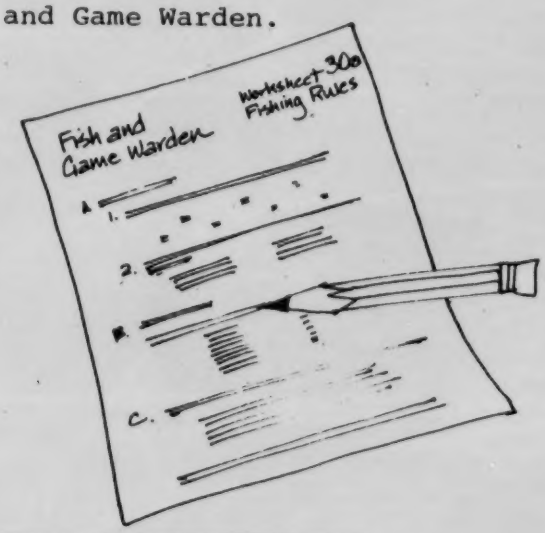
Demonstrate knowledge of fishing rules

STEP 1.

Read the rules regarding fishing licenses and catch limits. Find them on the next page.

STEP 2.

Do Worksheet 30a, Fish and Game Warden.



Observe the people who are fishing in Laker

STEP 1.

Turn to Worksheet 30b, Fish and Game Warden. It tells about people who are fishing in Laker Lake.

STEP 2.

Read about each person.

State of Laker fishing rules

A. Fishing License

1. A person must have a fishing license if he or she is 16 or older. There is a fine of $10 for fishing without a license.

2. A person who has lived in Laker for at least six months needs a Resident Fishing License. Other people and those who have lived in Laker less than six months need a nonresident fishing license. There is a fine of $4 for fishing with the wrong license.

3. A fishing license is needed to catch frogs, turtles, and mussels as well as fish.

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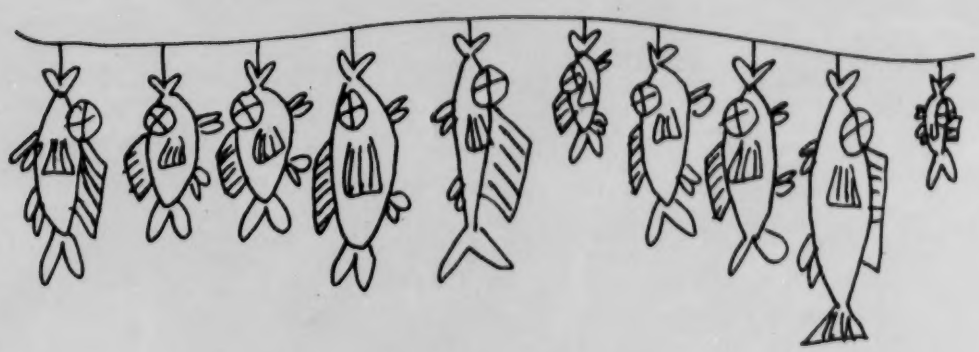
B. Limits on Catch

1. Each person must not catch more fish than listed below:

Fish	Limit (largest number that can be caught)
walleye	10 fish
perch	10 fish
trout	10 fish
catfish	8 fish
black bass	8 fish
salmon	3 fish
blue pike	fishing not allowed
sturgeon	fishing not allowed
all others	no limit

2. There is a fine of $5 for every fish over the limit. There is a fine of $10 for every blue pike or sturgeon that is caught.



37

Decide if each person is following the fishing laws

STEP 1.

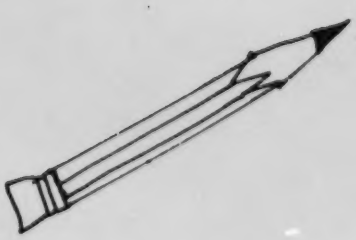
Compare the rules to each person's activity.

STEP 2.

Circle yes or no on the worksheet to show if each person is following the rules.

STEP 3.

If someone is not following the rules, write what the person is doing wrong.



38

Decide how much the violators should be fined

STEP 1.

Look at the rules again.

STEP 2.

Read what the person is doing wrong.

STEP 3.

Write the amount of fine to be charged to each violator.

STEP 4.

Check your answers with the key on the next page.

39

Key:

Following the rules?		What is wrong?
1.	no	Needs a Resident Fishing License. $10 fine.
2.	yes	
3.	no	Catching sturgeon is not permitted. $10 fine.
4.	no	Needs a nonresident fishing license. $10 fine.
5.	yes	
6.	no	Limit on perch is $10. $5 fine.
7.	no	Needs a Resident Fishing License. $4 fine.
8.	no	Catching blue pike is not permitted. $10 fine.
9.	yes	
10.	yes	
11.	no	Limit on salmon is 3. $20 fine.
12.	no	Needs a Resident Fishing License; catching sturgeon is not permitted. $14 fine.

Now . . .

Turn to the Using Information about the Environment Reaction Form in your Program Guide. Find the Fish and Game Warden page. Record your feelings about your interests and abilities in this activity. Return to the next page.

Did you enjoy being a fish and game warden? Yes? Then you may want to try

Some other activities:

1. Read books about fish and animals. Learn about their life cycles and habits.

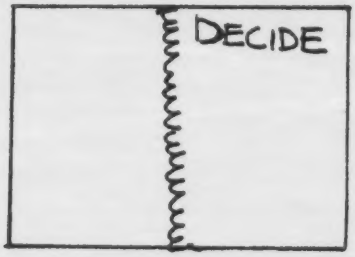
2. Call the Natural Resources Department in your state. Find out what the rules about fishing and hunting are.

3. Visit a fish and game warden at work. Find out what that person does "on the job."

41

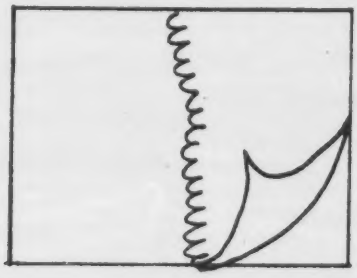
Would you like to find out more about this occupation?

yes ▶ Turn to DECIDE 30--Fish and Game Warden.



no ▶ Turn to another Using Information about the Environment occupation:

Occupation 29--Landscape Gardener
Occupation 31--Farmer
Occupation 32--Meteorologist



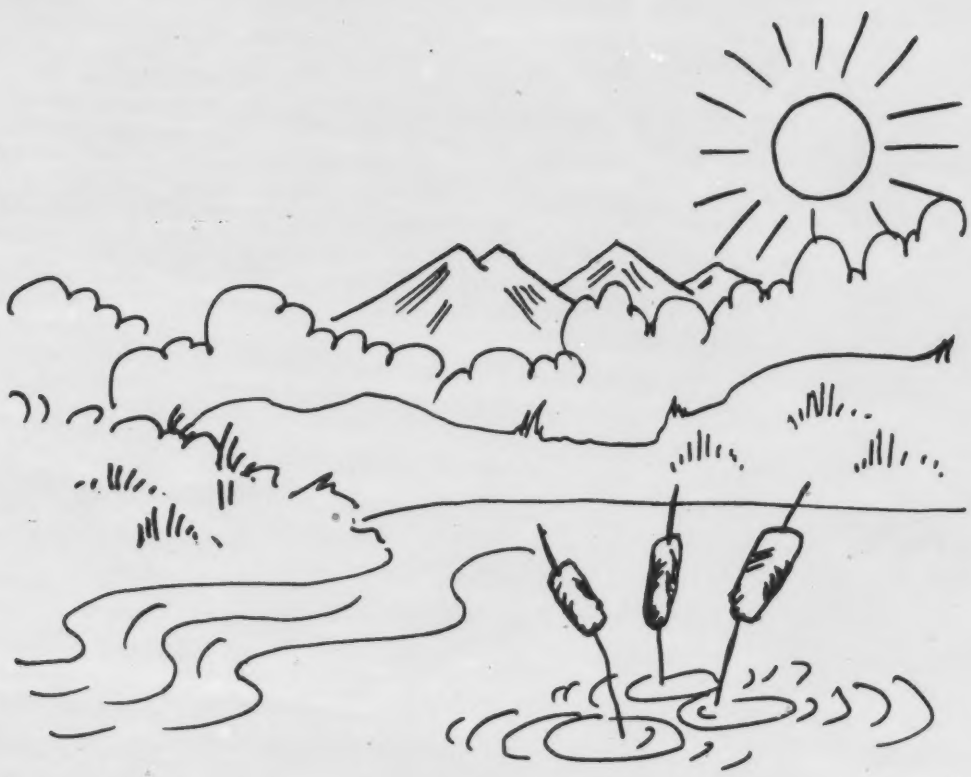
or ▶ Look at the Self-Inventory Chart in your CAP Program Guide. Select another job function to investigate.

42

Fish and Game Warden DECIDE 30

You did one of the tasks of a fish and game warden. You decided which people were not obeying state fishing laws. Fish and game wardens also do other tasks.

If you want to know more about a fish and game warden's job, continue reading. The next pages will help you DECIDE if you want a career as a fish and game warden.



43

Talking with Hal Evans, fish and game warden in Ohio . . .

I work in the Division of Wildlife. My first duty is to protect the animals, fish, and birds. So, I must know and enforce all hunting and fishing laws. These laws are important for wildlife. They are important in our environment.

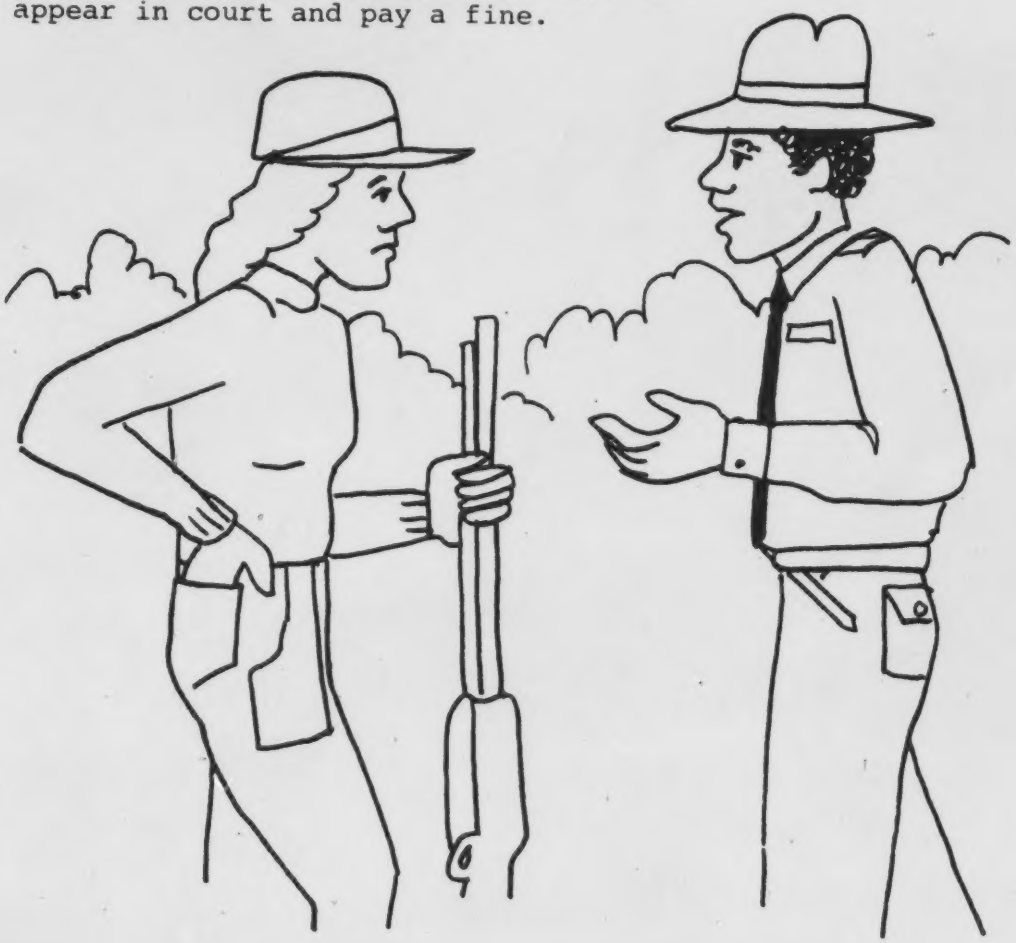
One law has to do with "bag limits." This rule tells how many fish or game you can "bag" or take. Bag limits are set for a reason. They keep the numbers of fish and game at the right level for the available food supply.

If too many fish or game live in one place, they might not find enough food. So, people are allowed to fish and hunt. This reduces the number of wildlife that must find food. But, people need rules. The rules tell them how many fish and game they can take. That way, people don't take too many of our wildlife.

44

I have other laws to enforce. For example, one hunting law tells when animals can be taken. This law keeps people from hunting baby animals. I watch to make sure people obey these rules.

This is how I enforce the laws. First, I ask the person to show me a license. I check all the information to see if it is the right license. Then I ask to see the fish or game the person has caught. I check to see if he or she has obeyed the limits and other rules. If a rule has been broken, I make an arrest. Often the person will have to appear in court and pay a fine.



45

Do all fish and game wardens do the same things that you do?

Yes, although we do a lot more than I've told you. For example, I work to improve the land and water for wildlife. I often check fish, animals, and birds. I check the places where they live. Sometimes I help to build places where birds and animals will want to live. I also put out food for fish and animals that need it.

I try to help people, too. I tell them information they need. I teach them about wildlife. I want people to know about nature. I want them to appreciate each kind of fish, bird, and animal.

Sometimes people get lost . . . or in accidents. Then I help them.

46

What do you like most about your job?

I like knowing I am doing something to preserve our wildlife. The fish, animals, and birds need people to protect and care for them. I am one of those people. I try to help other people learn about and care for these creatures, too. Without care and protection, many wildlife would disappear from our earth.

What do you like least?

I dislike meeting people who break the law. My first thought is that they are very selfish. I think that they don't care about our wildlife. But, this is not always true. I must try to be more understanding.

Some people just do not know the laws. They do not know why the laws were made. I can help them and the wildlife by sharing my knowledge. I must keep trying to be a more helpful and understanding person.

47

How did you prepare for your job?

I worked during the summers as a fish and wildlife assistant. I also camped, hiked, hunted, and fished a lot. By doing these things, I learned many outdoor skills that help me now. In high school, I studied science.

College training is not required for this job. When I was hired for this job, I went to a special state training school. I was taught everything I needed to know to do my job. I passed all the physical requirements, too.

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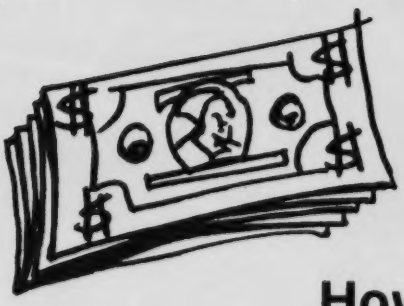
You see, there are things fish and game wardens must be able to do. We must be able to swim 100 yards. We must be able to row a boat. We must have good vision and hearing. All these skills help us do our jobs well.

States have certain weight and age requirements for people who want to be fish and game wardens. These rules vary from one state to another. You should learn the rules in your state.

49

What hours do you work?

I work from 8:00 a.m. to 5:00 p.m., Monday through Friday. My assistant works the other days. During bad weather and forest fires, I work extra hours.

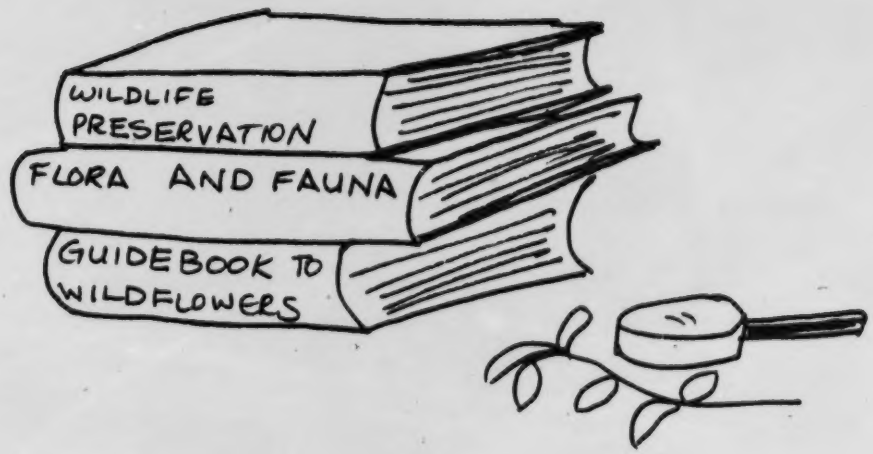


How much money do you earn?

Salary depends upon a person's education and experience. I have worked in my job for ten years. And, I have some managerial duties. (I supervise other workers. I plan the work activities.) I earn about $20,000 a year. Our game protector manager earns $26,000 a year. Some day, I may be promoted to that position. People in entry-level jobs earn about $9,700 a year.

What is the employment outlook?

The outlook is good. Best opportunities will be for people who have a college degree. Think about studying forestry management, forestry science, and wildlife biology. They are some of the best college programs to follow for this work.



51

Do you want to learn more about this job?

You can get more education:

- Take the following courses in high school.

  General science and biology:

  Fish and game wardens need to know about animals, fish, and other forms of wildlife.

  Archery, riflery, and other hunting-related sports:

  Fish and game wardens need to know how to use all equipment for hunting and fishing.

- Talk to a fish and game warden.
- Learn about some other jobs related to fish and game warden, such as . . .

  -forestry technician
  -fish culturist
  -animal ecologist

- Find out the rules in your state for being a fish and game warden.
- Attend a university or college. A fish and game warden must know a lot about science.

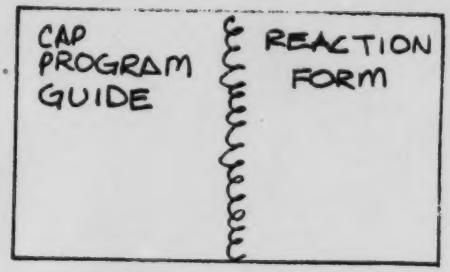
You can get some experience:

- Get a part-time job as a fish and wildlife seasonal aide.
- Take part in scouting, camping, and other outdoor activities.
- Learn to hunt, to fish, and to hike.
- Apply for a job with your state government.

52

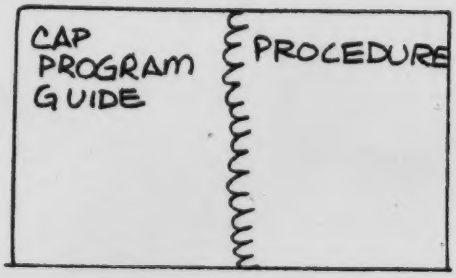
Now . . .

Turn to the Using Information about the Environment Reaction Form in your Program Guide. Answer the questions on the back of the Fish and Game Warden sheet.



What Next?

How many occupations have you investigated so far? Turn to the Procedure section of your Program Guide. Find the directions that apply to you.



Enjoy the Career Alert Planning program!

Farmer

PERFORM 31

Farmers work to produce food to sell at the market. They study market trends to learn which crops will bring the best prices. Then they use their knowledge about soil, weather, and seasons as they work to produce good crops.

Farmers have the following responsibilities.

Responsibilities

1. Decide the types and quantities of crops to plant.
2. Purchase seed, livestock, fertilizer, feed, and other supplies.
3. Plant, care for, harvest, and sell crops.
4. Operate farm machinery.
5. Feed and care for animals.

You will learn about making decisions about crops as you PERFORM the following activity.

There are many things farmers think about when deciding what crops to plant. Farmers think about the weather, the soil, and the season. They also think about the money they will get when they sell the crops.

This is because farmers are in business to earn money. And, they must earn more money than they spend. They must earn a profit. Figuring profit helps farmers decide what crops to plant. This is how farmers figure profit.

1. They figure how much money the crops will sell for.

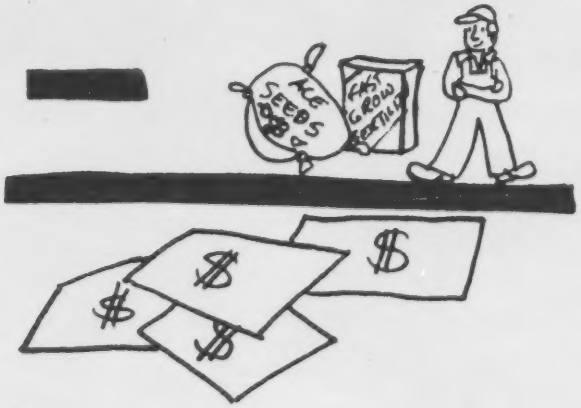
   This money is called <u>earnings</u>.

2. They figure how much money it costs to grow the crops.

   These costs are called <u>expenses</u>. They are money spent for things like seed, fertilizer, machines, and farm workers.

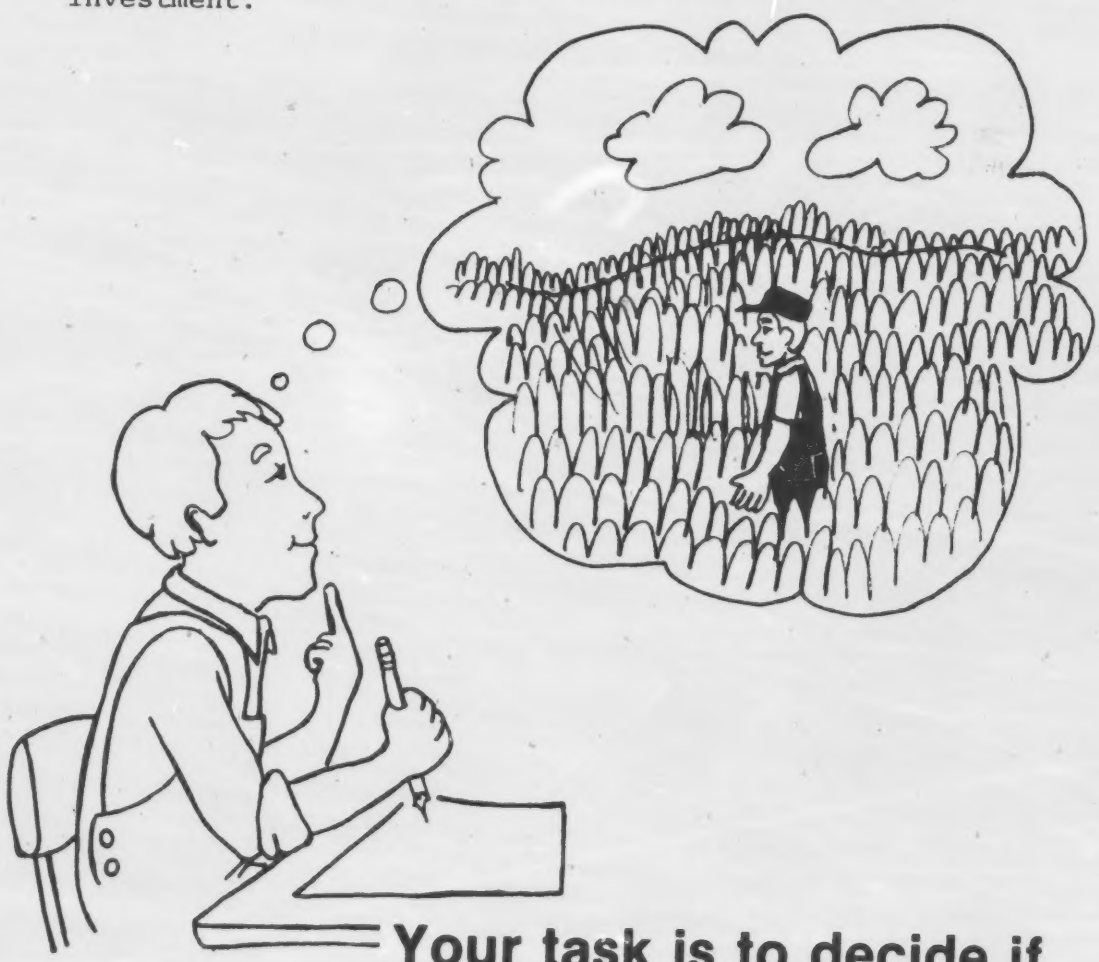
3. They figure how much money will be left for profit.

   <u>Profit</u> is money left from earnings after paying expenses. It is the farmer's income or salary for the year.



Imagine . . . YOU are a farmer.

You are thinking about planting wheat on your land. You know the soil and weather conditions are good for wheat. But, you don't know if wheat is a good investment.



Your task is to decide if you will earn a profit from a wheat crop.

This is what you must do:

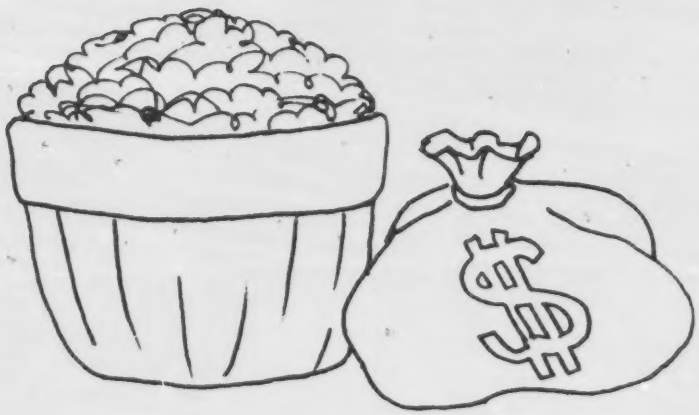
Find out how much money you will earn from the wheat crop

STEP 1.

Read the facts 1, 4, and 5 on the next page.

STEP 2.

Turn to Worksheet 31, Farmer. Follow the directions and complete Part A.



Facts

ABOUT YOUR FARM BUDGET

1. Your farm has 300 acres of crop land. You want to plant wheat on all this land.

2. You need 2 bushels of wheat seed for each acre of land.

3. Each bushel of seed costs $7.30.

4. You can grow 40 bushels of wheat on each acre.

5. You can sell each bushel of wheat for $3.80.

6. You can pay $10,000 each year for your farm machinery.

7. Each year you spend another $15,000 on other farm expenses. (You hire extra help, pay land taxes, buy animals, pay health expenses of animals, and supply other needs.)

Find out your total expenses for the year

STEP 1.

Read facts 1, 2, 3, 6, and 7 on the FACTS page.

STEP 2.

Complete Part B on Worksheet 31, Farmer.

Find out if you will have a profit or a loss

STEP 1.

Turn to Part C on Worksheet 31, Farmer.

STEP 2.

Fill in the totals from Parts A and B.

STEP 3.

Subtract Part B total from Part A total to find if there is a profit. Check your answers with the key on the next page.

Key

A. Earnings (money you will earn this year)

300 × 40 = 12,000 total bushels of wheat × $3.80 = $45,600 total earnings

B. Expenses (money you will spend this year)

1. Wheat seed

300 × 2 = 600 total bushels of seed × $7.30 = $4,380 total cost of seed

2. Machinery $10,000

3. Other $15,000

TOTAL $29,380

C. Profit

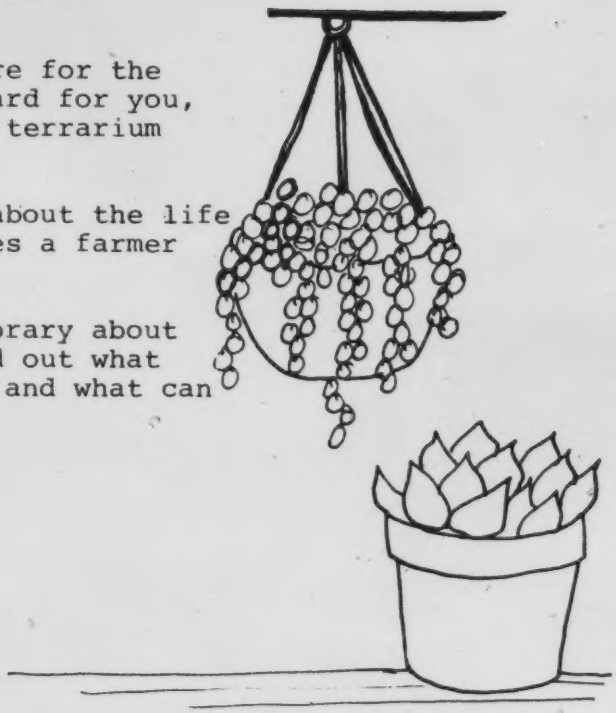
$45,600
- 29,380
$16,220

Now . . .

Turn to the Using Information about the Environment Reaction Form in your Program Guide. Find the Farmer page. Record your feelings about your interests and abilities in this activity. Return to the next page.

Did you enjoy being a farmer? Yes?
Then you might like to try

Some other activities:



1. Plant a garden and care for the plants. If this is hard for you, try house plants or a terrarium instead.

2. Visit a farm. Learn about the life of a farmer. What does a farmer do each day?

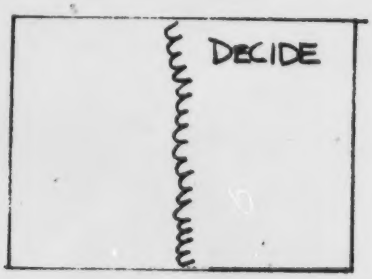
3. Get books from the library about soil and plants. Find out what makes crops grow well and what can hurt them.

4. Read the farm news in your local paper. Does it tell why market prices of farm products change?

   Pick a farm product. Write down its price. Do this every day for a month.

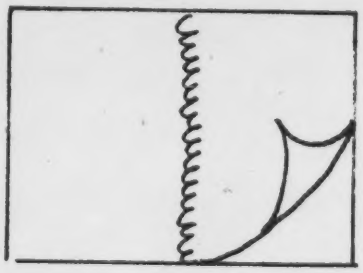
Would you like to find out more about this occupation?

yes ▶ Turn to DECIDE 31--Farmer.



no ▶ Turn to another Using Information about the Environment occupation:

Occupation 29--Landscape Gardener
Occupation 30--Fish and Game Warden
Occupation 32--Meteorologist



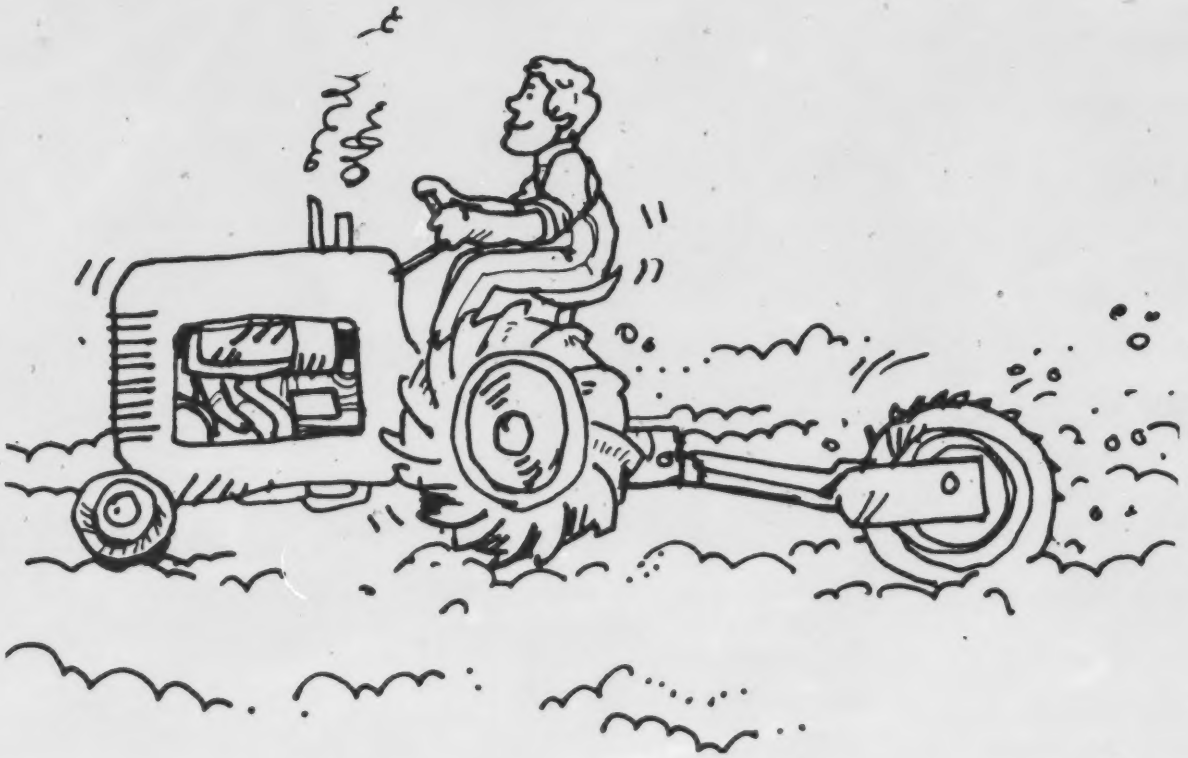
or ▶ Look at the Self-Inventory Chart in your CAP Program Guide. Select another job function to investigate.

Farmer

DECIDE 31

You have just done one of the tasks many farmers do. You estimated your profit for the year by figuring your earnings and expenses.

Farmers do much more! You will find out more about a career in farming by . . .



Talking with Allen Harper, farmer . . .

I own a small farm with two kinds of crops. I grow wheat and soybeans. I also raise dairy cows for milk and chickens for eggs. I have apple trees, too.

In the spring I plow the fields. I study the soil. I put special chemicals into the soil to make it good for crops. When the soil is ready, I plant my crops.

In the summer I take care of my crops. I use chemicals to kill bugs and weeds. I break the soil up so that rain can reach the roots of the plants. I pull up some plants so others will have room to grow.

In the late summer and fall, I pick the crops. This is a busy time! I hire extra workers to help me. We must pick the crops when they are ripe.

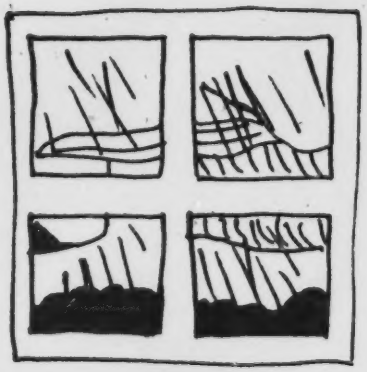
Winter is not as busy as other times. But, I still have work to do. I must care for my animals all year.

My cows must be very healthy, because I sell their milk. I work hard to keep the animals, the barn, and the milking machines very clean. The government checks these things several times a year. I have a government permit to sell milk. If my cows are sick, or my barn or machines are dirty, I'll lose my permit. Then I would not be able to sell the milk.

I must take care of my machines all year, too. My machines cost a lost of money. I can't afford to replace them if they break. I have to fix the machines myself. I must take care of them every day so they won't break down.

What do you like most about your job?

I love the land. I love to work outdoors. I love to smell the earth and to see my crops grow.



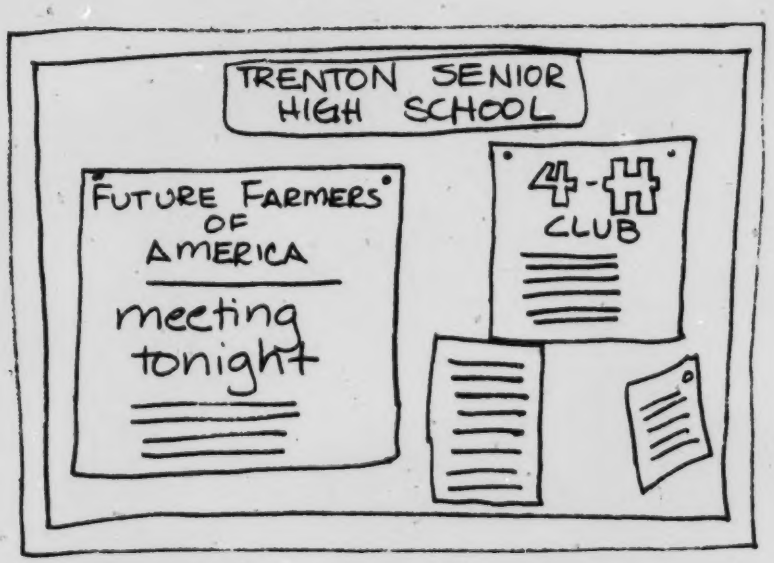
What do you like least?

For a small farmer like me, farming is risky. Many things can go wrong. The crops may be ruined by too much or too little rain. The animals may get sick. Then I don't earn very much money.

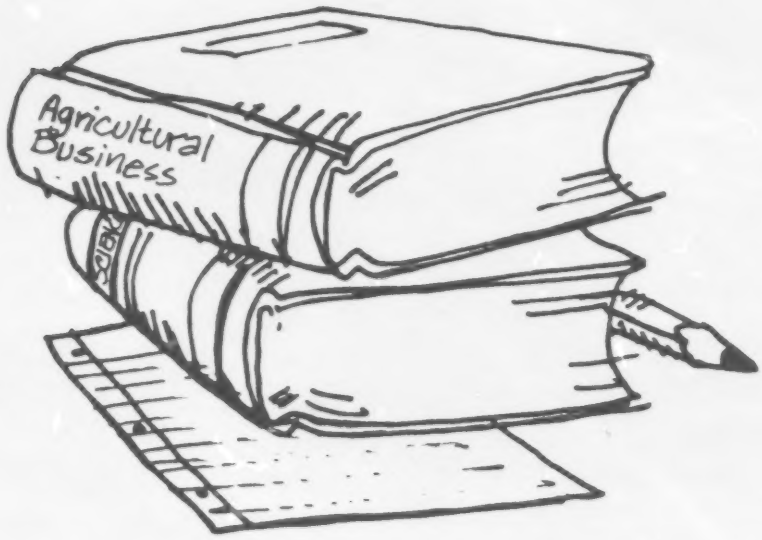
The prices I get for my crops and animals change fast. I can never be sure how much money I will make until I sell them. This makes planning very hard.

How did you prepare for your job?

I was lucky! My high school had an agricultural education program. I took courses in farming. I learned a lot about plants and farm animals. I learned about taking care of land and farm machines. I learned about managing my money and time. I also learned how to keep records. I belonged to Future Farmers of America.



I could have started my career right after high school. But farming has become a big business! I wanted more education so I went to a junior college for two years. In college I took courses in agricultural business. While I was in school, I worked on other people's farms for money and experience.



Many farmers lived on farms as children. They learned many farming skills by helping their parents with farm jobs. Still, many of them go to college too. Farmers need to know many complex things!

Do all farmers do the same things that you do?

Yes, but some farmers raise other kinds of crops and animals. Crops and animals each need special care.

The biggest difference among farmers is the size of their farms. Managing big farms is different from managing small farms. Big farms are run like big businesses. They may be owned by a large company or a person who doesn't do any farm work. The owner hires people to work on the farm. Often the owner hires a farm manager to keep the farm running smoothly.

What hours do you work?

Every day I get up at 4:30 a.m. to milk the cows. Then I eat a big breakfast with my family. During growing seasons I may work in the fields until the sun goes down. During that time I take only a lunch break. Farming is not an 8:00 to 5:00 job! The work must be done when the ground and crops are ready.

How much money do you earn?

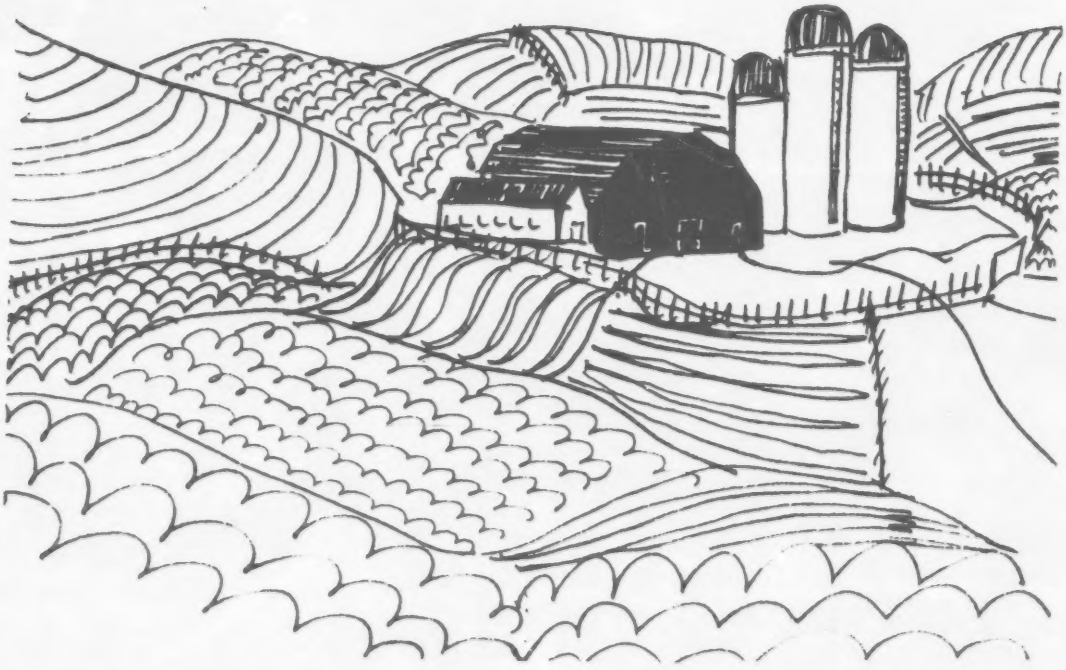
It changes from year to year. Some years I have a good profit. But, there are years when I have had a loss. It is very hard to predict what will happen.

Last year I earned $15,000. But, the year before that I earned only $10,000. Some farmers who have small farms may earn only $7,000 a year. Farmers with large farms have more stable income. Some earn over $50,000 a year.

What is the employment outlook?

Not good. The trend is for fewer but larger farms. And, the high cost of land and machinery will keep many people out of this occupation. The best opportunities are in the South and in small specialty farms that require little land.

The opportunities are good, however, for a related occupational group: farm managers. Farm managers will be needed for many of the large farms. These managers will need agricultural skills and a variety of building, maintenance, and business skills.



Do you want to learn more about this job?

You can get more education:

- Take the following courses in high school or vocational school.

  Business:

  Farmers need to be able to plan how to spend their money. They must buy seeds and equipment, hire help, and buy other things. They need to be able to keep business records.

  Math:

  Farmers need math skills to do their recordkeeping.

  Agriculture:

  Some schools have agriculture programs. Such programs are very important to farmers.

- Read books and magazines about crops and farm animals.
- Read the farm news in your local newspaper.
- Learn about some other jobs related to farmer, such as . . .

  -agricultural extension agent
  -farm machinery salesperson
  -farm worker
  -milk or egg grader
  -farm manager

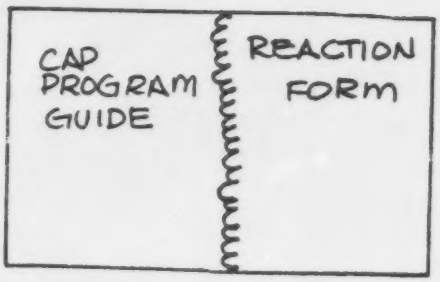
- Enroll in a two-year or four-year college agricultural program.

You can get some experience:

- Join Future Farmers of America or 4-H Club.
- Get part-time and summer farm jobs.
- Apply for a full-time job on a farm.

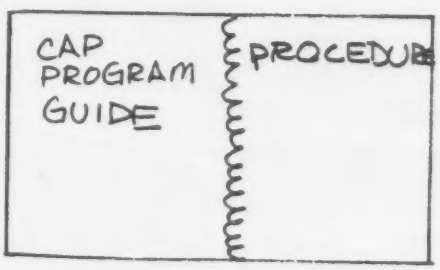
Now . . .

Turn to the Using Information about the Environment Reaction Form in your Program Guide. Answer the questions on the back of the Farmer sheet.



What Next?

How many occupations have you investigated so far? Turn to the Procedure section of your Program Guide. Find the directions that apply to you.

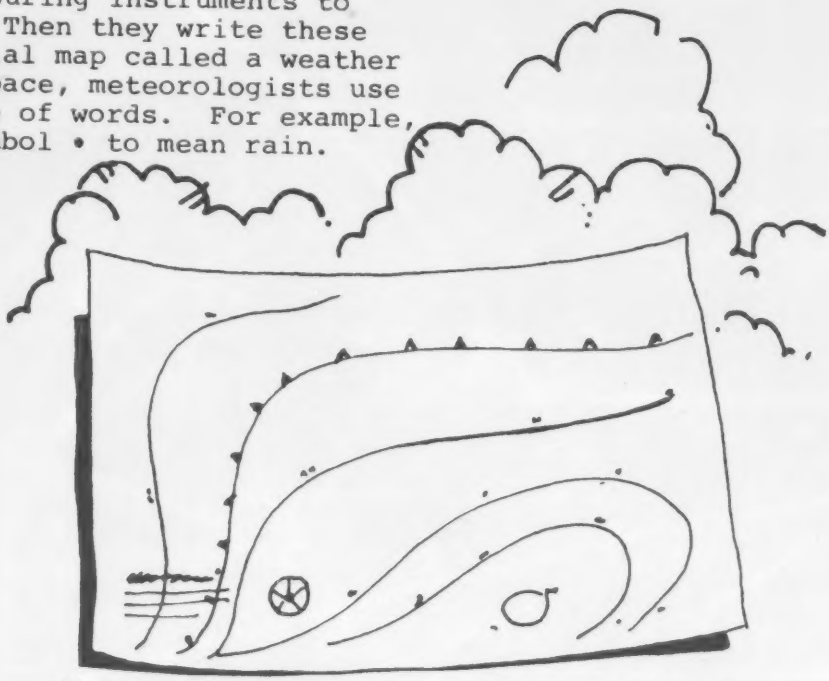


Enjoy the Career Alert Planning program!

Meteorologist

PERFORM 32

Meteorologists study the weather. They use special measuring instruments to collect facts. Then they write these facts on a special map called a weather map. To save space, meteorologists use symbols in place of words. For example, they use the symbol • to mean rain.



Meteorologists have many responsibilities. They do the following kinds of things:

Responsibilities

1. Report current weather information.
2. Study about clouds.
3. Study about wind and rainfall.
4. Make short-range and long-range weather forecasts.
5. Make forecasts regarding smoke control and air pollution.

You will learn about reporting current weather information as you PERFORM the following activities.

Imagine . . . YOU are a meteorologist.

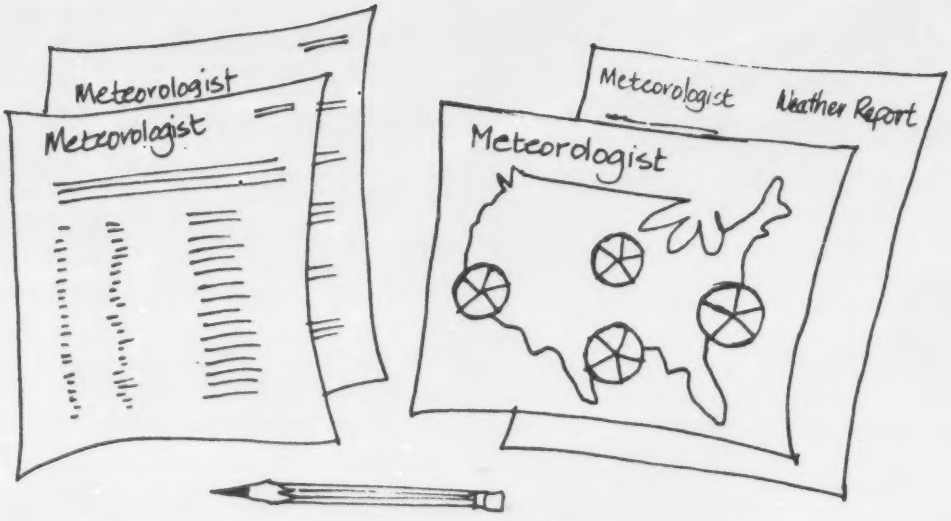
You work at the weather bureau in your city. You study weather and weather maps for all parts of the United States.

Today you will study the weather in four cities:

-San Francisco
-Dallas
-Chicago
-Washington, DC

You will look at symbols that show the weather in each city. Then you will prepare a report about each city.

Your task is to prepare a weather report.



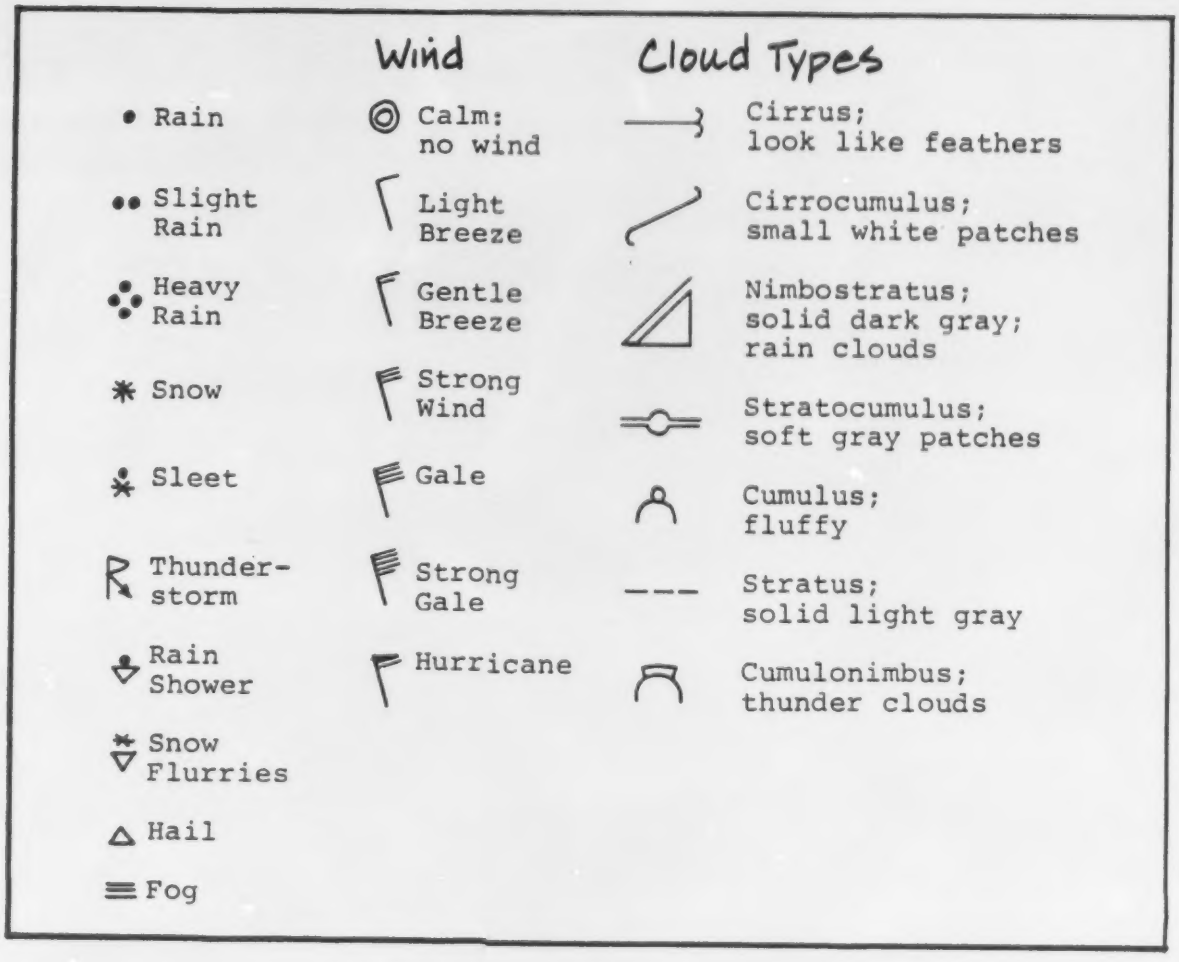
This is what you must do:

Identify symbols used for various weather terms

STEP 1.

Look at and study the list of symbols.

Symbols



STEP 2.

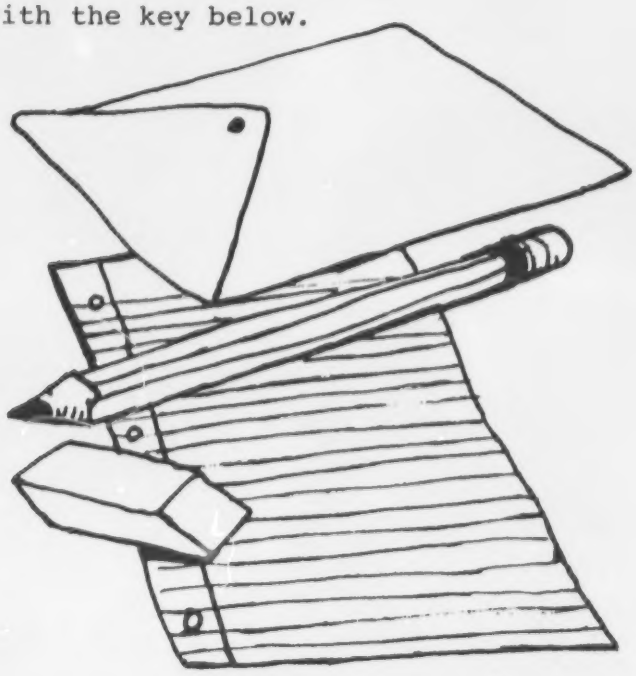
Turn to Worksheet 32a, Meteorologist.

STEP 3.

Do Part A of the worksheet. Match each symbol to the right weather term.

STEP 4.

Check your answers with the key below.



Key

Key:

1. heavy rain	10. no wind
2. thunderstorm	11. strong wind
3. hail	12. light breeze
4. snow	13. fluffy
5. slight rain	14. cirrocumulus
6. snow flurries	15. stratocumulus
7. sleet	16. stratus
8. fog	17. cirrus
9. hurricane	18. thunder clouds

Identify where each type of information on a weather report symbol is found

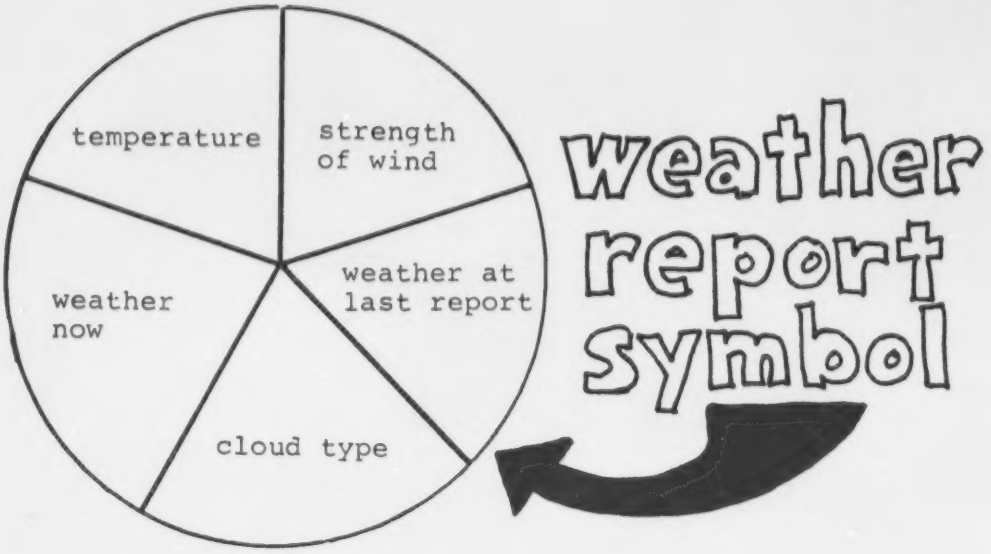
STEP 1.

Turn to Worksheet 32b, Meteorologist.

STEP 2.

Look at the map. Notice the weather report symbols--the circles. Each circle has five parts. Each part has a symbol. Each symbol tells something different about the weather.

The picture below shows what fact is given in each part of the circle.



STEP 3.

Turn back to Worksheet 32a, Meteorologist. Do Part B.

List current weather information

STEP 1.

Turn again to Worksheet 32b, Meteorologist. Look at the Weather Report page and the Map page.

STEP 2.

Look at each circle on the map. What is the weather in each city?

STEP 3.

Write the correct facts on the Weather Report.

STEP 4.

Check your answers with the key below.

Key

Date April 15, 1978

Time 4:00 Pm

Time of last report 12:00 noon

The weather in San Francisco:

temperature 30° centigrade

strength of wind calm

cloud type looks like tornado

weather now sunny

weather at last report sunny

The weather in Chicago:

temperature 8° centigrade

strength of wind strong wind

cloud type very dark grey. Cloudy

weather now heavy rain

weather at last report rain

The weather in Dallas:

temperature 32° centigrade

strength of wind strong gale

cloud type thunderclouds

weather now thunderstorm

weather at last report light rain

The weather in Washington, D.C.

temperature 17° centigrade

strength of wind light breeze

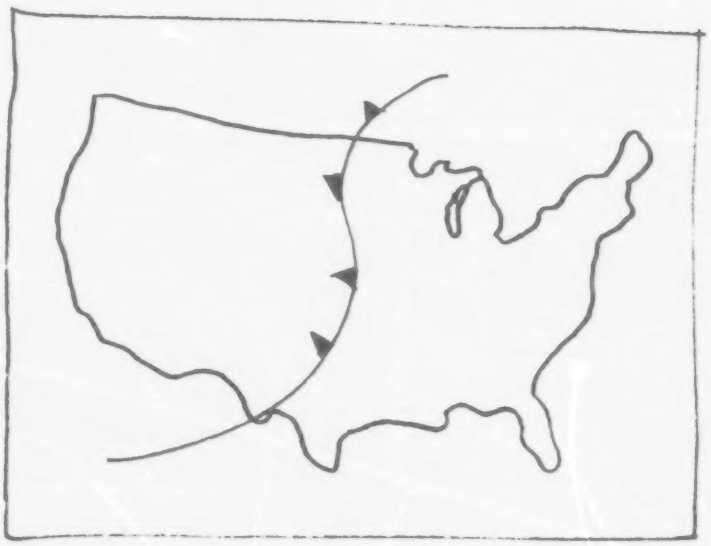
cloud type cloudy

weather now rain showers

weather at last report fog

Now . . .

Turn to the Using Information about the Environment Reaction Form in your Program Guide. Find the Meteorologist page. Record your feelings about your interests and abilities in this activity. Return to this page.

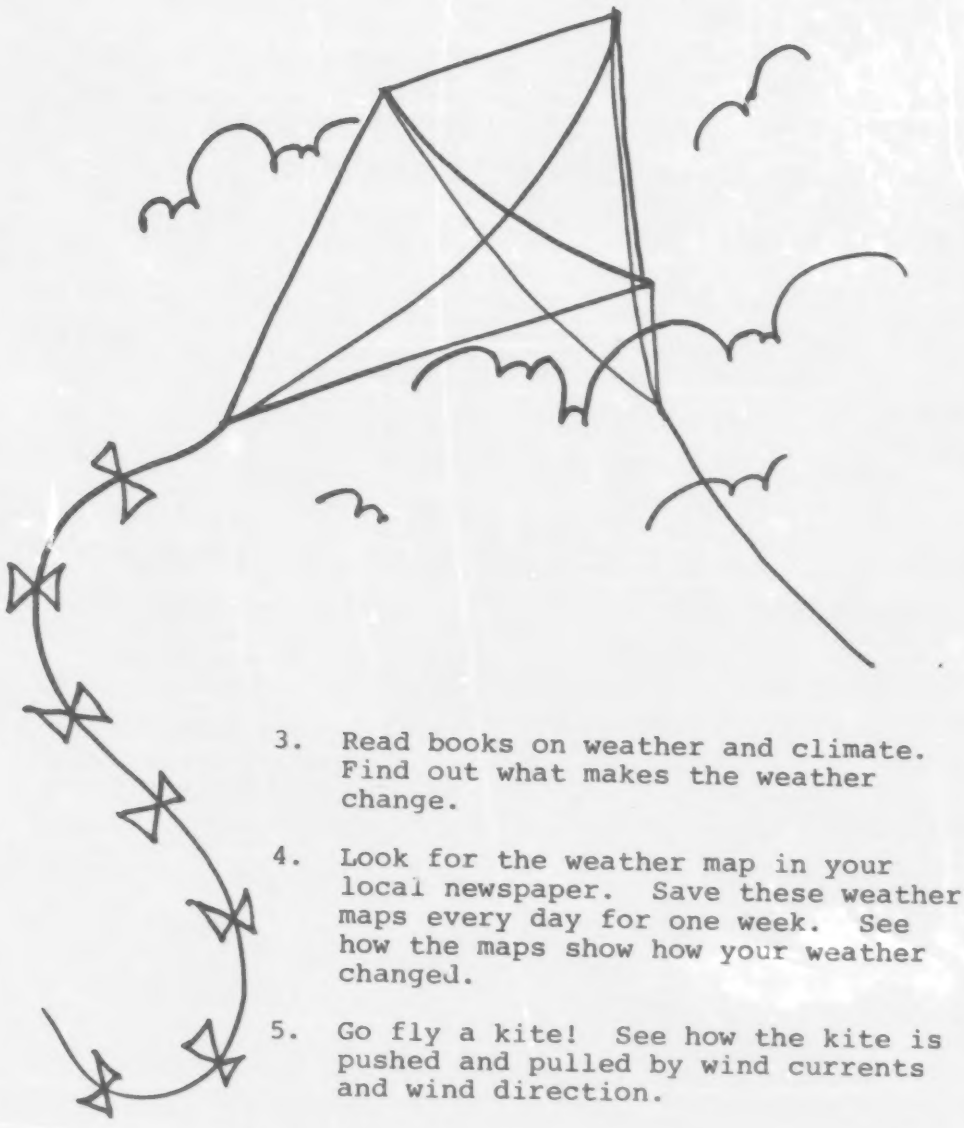


Did you enjoy being a meteorologist? Yes? Then here are

Some other activities:

1. Go to the weather bureau in your city. Look at a weather map. Find the symbols you used in this activity. Look for other symbols on the weather map.

2. Watch a weather broadcast on television. See how the reporter uses a map to help explain the information.



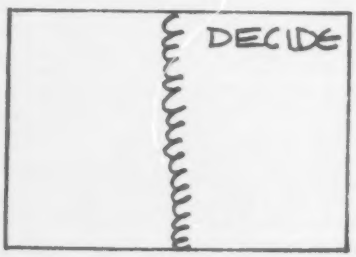
3. Read books on weather and climate. Find out what makes the weather change.

4. Look for the weather map in your local newspaper. Save these weather maps every day for one week. See how the maps show how your weather changed.

5. Go fly a kite! See how the kite is pushed and pulled by wind currents and wind direction.

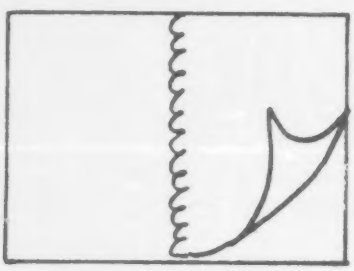
Would you like to find out more about this occupation?

yes ▶ Turn to DECIDE 32--Meteorologist.

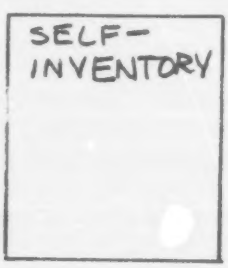


no ▶ Turn to another Using Information about the Environment occupation:

Occupation 29--Landscape Gardener
Occupation 30--Fish and Game Warden
Occupation 31--Farmer



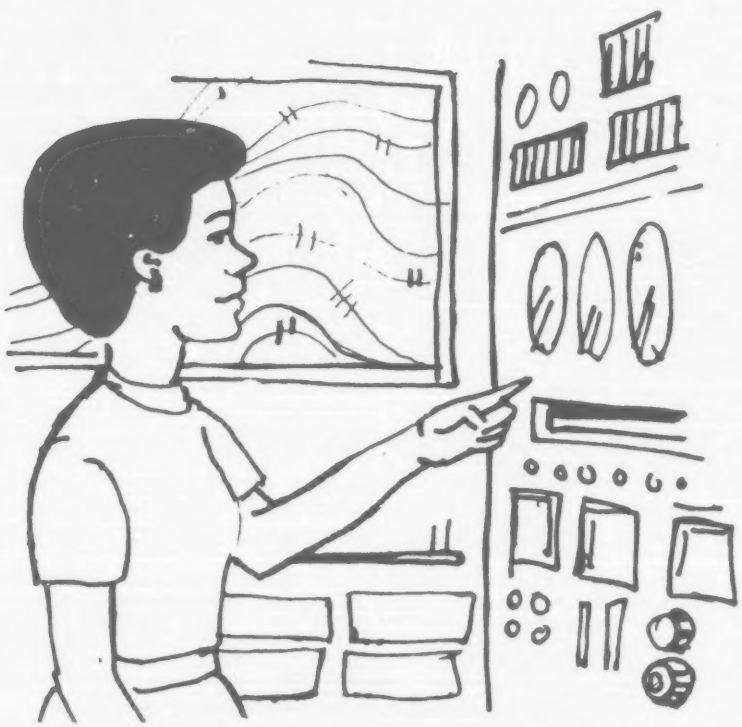
or ▶ Look at the Self-Inventory Chart in your CAP Program Guide. Select another job function to investigate.



Meteorologist

DECIDE 32

You have just finished one task a meteorologist does. You read weather symbols on a map to prepare weather reports. The next pages will tell you more about a meteorologist's job. They will answer some questions about the career of a meteorologist.



Talking with Marcia Carter, meteorologist at Dayson Air Force Base . . .

My job is to know about weather all over the country. I tell pilots about the weather. This helps them choose the best way to get somewhere. When the weather is bad along one route, the pilot may choose another route. Sometimes there is no safe route. Then the pilot may have to wait until the weather is better.

Collecting information is a big part of my job. I use many different instruments. I use . . .

-an anemometer to measure wind
-a thermometer to measure heat
-a microbarograph to measure air pressure

I get information from computers and from radar, too. I also use my eyes!

Meteorologists in other places do all these things, too. We send the information to each other. Then we know about the weather in other places.

After I look at all the weather facts, I give a forecast. That means I tell what the weather might be like in the future. I must have good facts to make good forecasts.

How did you prepare for your job?

In high school, I took a lot of math and science courses. Then I joined the Air Force. The Air Force sent me to a special weather training school. After that, I worked in the weather section of an Air Force base. I worked as a meteorologist technician. A meteorologist trained me while I worked. I also went to college part-time. When I graduated, I was able to work on my own. I enjoy being a meteorologist.

What do you like most about your job?

I like learning about weather. It is fascinating to study about the atmosphere. I enjoy using my math and science skills.

What do you like least?

Since weather changes quickly, I have to make decisions fast. I worry about making mistakes.

Pilots depend on me to give them safe flight plans. It is a big responsibility. If I make a mistake, it may endanger lives.

What hours do you work?

I work from 4:00 p.m. until midnight. I work on Monday, Tuesday, Wednesday, Friday, and Saturday. I do not work on Thursday and Sunday.

Some meteorologists work during the day. Others work at night. There is always a meteorologist working in airports. All airport meteorologists work about forty hours a week.

How much money do you earn?

Salary depends upon where you work. It also depends upon how much experience and education you have. Beginning meteorologists with a bachelors degree from college earn from $10,500 to $23,000 a year. Those with master's degrees earn from $13,000 to $29,000 per year. And, PH.D graduates earn between $19,000 and $50,000 a year.

Salary depends upon job responsibilities, too. Meteorologists in top management and staff positions can earn well over $50,000 a year.

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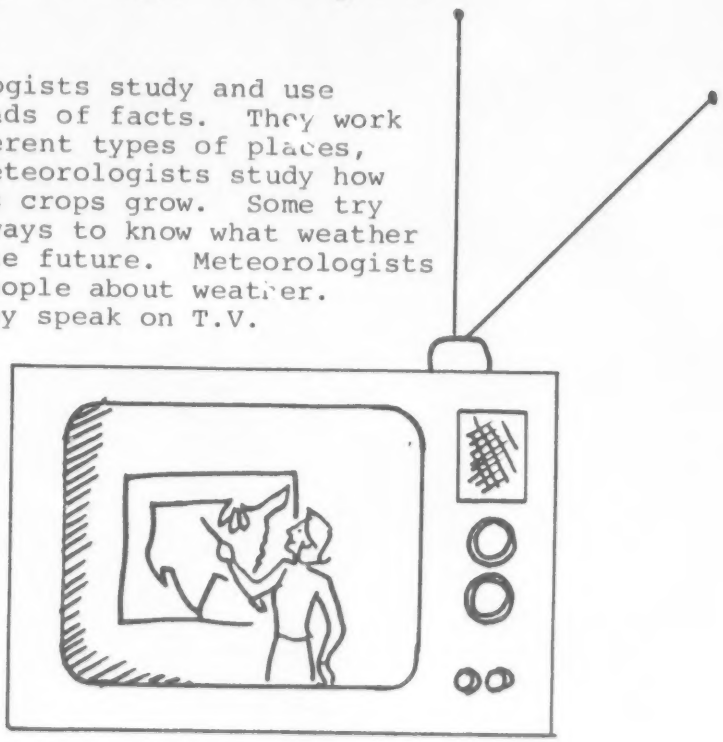
Do all meteorologists do the same things that you do?

No, meteorologists study and use different kinds of facts. They work in many different types of places, too. Some meteorologists study how weather helps crops grow. Some try to find new ways to know what weather will be in the future. Meteorologists tell other people about weather. Sometimes they speak on T.V.



What is the employment outlook?

Excellent for those with college degrees. The United States government employs the greatest number of meteorologists. Private industries and radio and television stations are good places to look for work.

Do you want to learn more about this job?

You can get more education:

- Take the following courses in high school.

  Science:

  Meteorologists are scientists. They need to know a lot about science.

  Math:

  Meteorologists use a lot of math in their jobs.

  English:

  Meteorologists must write well so that their reports are easy to understand.

- Go to the library and read about weather.

- Learn about some other jobs related to meteorologist, such as . . .

  -meteorologist technician
  -meteorologist equipment repairer
  -weather-chart plotter

- Go to a college or university. A college degree in meteorology is needed to get a job.

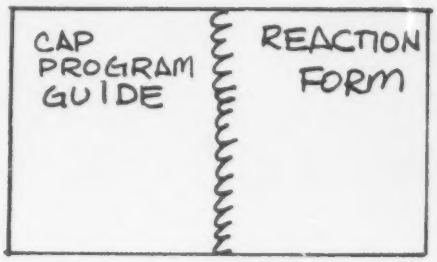
You can get some experience:

- Visit a meteorologist at work at your local airport. Ask to watch what the meteorologist does.

- Apply for a summer or part-time job in a radio or television station. Learn what the meteorologist does.

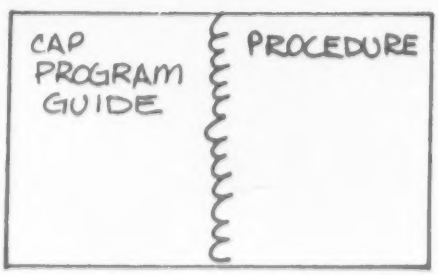
Now . . .

Turn to the Using Information about the Environment Reaction Form in your Program Guide. Answer the questions on the back of the Meteorologist sheet.



What Next?

How many occupations have you investigated so far? Turn to the Procedure section of your Program Guide. Find the directions that apply to you.



Enjoy the Career Alert Planning program!

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